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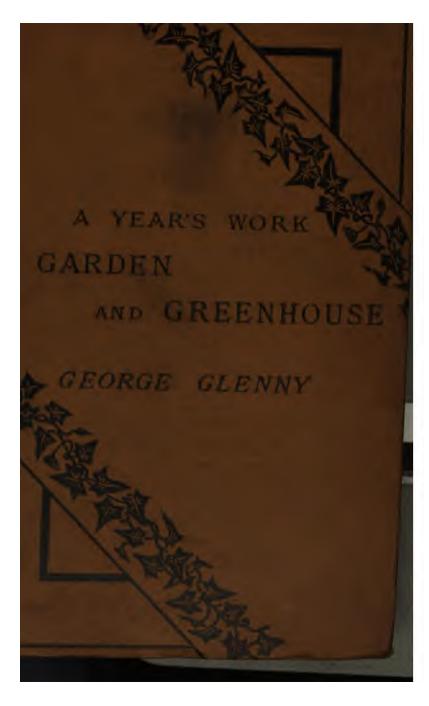
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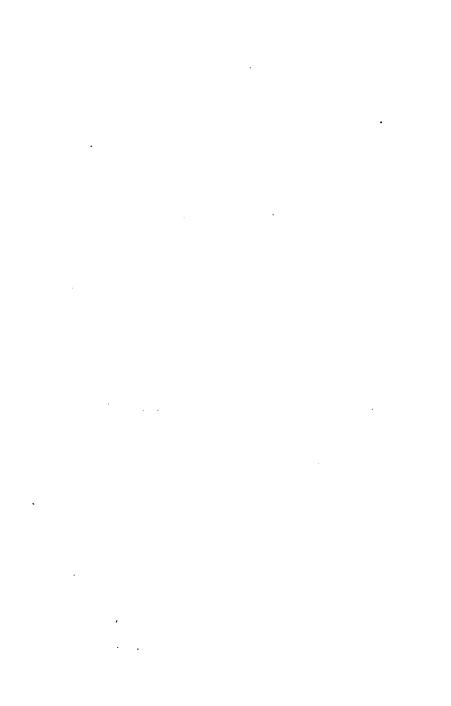




# A YEAR'S WORK

IN

# GARDEN AND GREENHOUSE



# A YEAR'S WORK

IN

# GARDEN AND GREENHOUSE

GEORGE GLENNY



# London CHATTO AND WINDUS, PICCADILLY 1880

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191. k. 199

PRINTED AT THE CAXTON PRESS, BECCLES.

# PREFACE.

I HAVE endeavoured to show in this book how an Amateur, without much experience, may dispense with the skilled labour which is often difficult, and sometimes impossible, to obtain.

By carefully watching once or twice the proceedings of a thoroughly good gardener in each of the operations I have described, an Amateur should learn practically enough about the work, if he or she be a true lover of horticulture, to get even unskilled labour (when under personal supervision from the directions here given) to make the garden fairly remunerative and wholly enjoyable.

If I have seemed to dwell upon some subjects with undue emphasis, it is with the knowledge that if an Amateur can supply to his friends or his visitors any particular fruit, vegetable, or flower a few weeks earlier or later than the ordinary market, he earns (among his friends) an enviable fame; but if he succeeds in two or three specialities, his reputation as a practical gardener is established for ever!

This seems to me to be worth more than the cost of the labour, the materials, and of this book.

Failure, if it occurs, must not discourage him; it may arise from neither his fault nor mine. I have to write for ordinary soils and for ordinary seasons.

I hope my readers may experience the best of both.

GEORGE GLENNY.

PAXTON HOUSE, FULHAM, S.W.

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# A YEAR'S WORK IN GARDEN AND GREENHOUSE.

### PRELIMINARY REMARKS.

In introducing this calendar of proposed operations for every month in the year, we must remind our readers that, so far as each particular month is concerned, it will be impossible for the most enthusiastic cultivator to keep pace with us in some parts of the country, for, as will appear obvious on a moment's reflection, there will be a month's difference between two situations, not only according to the extreme points of distance, but the difference between hill and valley, and between the north and south side of a hill. The routine which we propose is calculated for a place possessing all the advantages of our climate—good soil and situation; experience alone will teach the amateur whether he shall begin before or after the time laid down-whether at the beginning, the end, or the middle of the month. shall endeavour to give a few general rules for meeting difficulties and improving advantages, and with these rules and ordinary attention a novice will be able to make the most of his garden. We shall not attempt to give instructions for the professional gardener: if he does not thoroughly



know his business, our hints may remind him occasionally of his duty; but those who do know it will find nothing in our amateur's calendar to offend them. We could as easily supply the necessary hints for the management of the pinery, grapery, or peach-house, as we can the instructions to the amateur; but common sense tells us that the gardener who has the care of all these should be master of his business, and it is little better than a reproach to suppose him incapable and to require our assistance. Our real object is to give directions for those who are comparatively ignorant of the routine of operations, and who are desirous of becoming their own gardener, not only in a recreative point of view, but for the sake of economy also.

### CHAPTER I.

# THE FLOWER GARDEN.

### JANUARY.

Anemones.—Treat these the same in all respects as Ranunculuses, of which we shall have to speak shortly. The autumn-planted want protection by haulm or litter, or hoops and mats across the bed. The ordinary single Anemones are much more hardy than the double, and will stand a good deal of frost without any protection whatever.

Auriculas.—Cover up well with mats in frosty weather, but give all the air possible on fine days. If severe frost occurs by day, they should remain covered up. The roots must not be allowed to get quite dry, but it is of equal importance that the soil be not kept too wet. The drier they are when it is necessary to cover up much, the better. When water is required, give it thoroughly, but let it be on a mild day in the morning, with full ventilation all day.

Biennials and Perennials.—All those raised from seed last season, and not planted into their blooming places, may be got in at once if the weather is fair and mild, or, if not, as early as this condition exists long enough to admit of their being got in. Newly planted subjects overtaken by severe frost should be mulched.

Bulbs.—Beds of these in general should be covered during severe weather. It is a good plan to cover the soil permanently with a six-inch layer of leaf mould, which can be forked in as the spring advances.

Carnations and Picotees.—Those in small pots, in frames, must be shut up in bad weather, and wet weather in particular. We do not believe a frost would do the mischief that wet would; for dampness is fatal to most things, but certainly when confined in small pots full of roots. They must have no water while they have any moisture in the soil.

Cuttings and Seedlings.—Pots of the former and pans of the latter, to turn out in the spring, must be kept dry, and the drainage attended to.

Dahlias.—Examine to see if any show symptoms of shrivelling or rotting. Pot any that are in danger; they will often start a shoot or two before they rot altogether, and if drying too fast, they may be saved by setting to work. All that are very choice should also be potted and set to work early. As soon as cuttings are large enough, cut them off under the lowest joint, and strike them.

Flower Beds.—Those containing small plants should be covered against frost; but if they have not been, the plants should be examined at every thaw to see that the roots have not been disturbed, or, if they have been, to press them down into their places.

**Hyacinths.**—These in beds or borders should be covered with hoops and mats, or with dry litter, as a protection against frost.

Pinks and Pansies.—Those in their blooming pots, especially the latter, are kept growing as well as they can be during the winter, for the sake of their early bloom. Pansies intended to be flowered in pots, and not yet shifted to their blooming pots, should be shifted directly or early next

month, and well watered in to settle the earth about the balls at their roots; they should be covered close up for a day or two after this, but all alike should have air, and plenty of it, in dry and mild weather.

Planting.—Such subjects as Honeysuckle, Jasmine, Pyrus japonica, Roses, Wistaria sinensis, and many other climbers, may be now planted for the first time, and be spurred in; but all the weakly branches may be cut away, and the strong ones nailed out at proper distances, whether fan-fashioned or horizontal.

Pruning and Nailing.—Climbing plants—both those which are fresh planted, and others that have been established some time—may be pruned and nailed in all the winter months when the weather permits.

Pruning generally.—Such subjects as Almonds, Laburnums, and Lilacs, which have their set times for spring pruning, may nevertheless be touched this month, whenever the quantity requiring to be done shall cause you to have it some time about; for amateurs, who do everything with their own hands, have not always the time to do things rapidly, consequently they must begin early to get the work over in proper season.

Ranunculuses.—Turn out the soil from the beds, and lay it on each side the hole. Having thus removed, say a foot of earth, fork up the other well, but leave it in the bottom, and let the earth taken out be dug over and mixed once a week, and each time well examined to detect any vermin that may be in it. The Ranunculuses planted in autumn must be protected with litter.

Tulips.—These should be as carefully kept from frost as possible; the soil they are in should not be even allowed to crust on the top, if it can be prevented. If the earth be frozen down to the bulb, the bloom will assuredly be less perfect than if it were not frozen, however lightly the thing

may have been treated in consequence of the known hardy nature of the bulb.

Violets.—Beds of the Neapolitan and Russian sorts, if sheltered with a layer of open protecting material, such as pea-haulm, over which a mat may be thrown in severe weather, will furnish an occasional picking of blossom, especially if situated in a warm corner, which should always be selected for them.

### FEBRUARY.

Anemones and Ranunculuses.—The autumn-planted will require protection with litter or something of the kind. or in the event of severe frost they would be seriously injured; this is the reason why the growers for exhibition defer planting their best varieties until the second week in the month. Therefore, at the beginning of the present month put a layer of rotten cow-dung at the bottom of the bed or beds, as they are at present emptied to the depth of a foot. Let the layer be a good inch in thickness, and return the soil which has been turned out on the sides of the bed lightly into its place, and raised in the middle: leave it to settle a few days. About the second week lav the surface level, and draw drills six inches apart the whole length, and let them be three inches deep; place the tubers of the Ranunculus or Anemone at the bottom, gently pressing them into the soil; and when all are placed draw the soil partly back again, so that the tubers may be covered to the depth of two inches, and gently press the soil down upon them. Regulate the surface of the bed so that the drills show, but that the bed be left neat and clean. In this state they may remain until they are above ground.

Annuals.—One batch of these may be sown in a hotbed, without, however, having any violent heat. Sow the different sorts in different pots, and as they germinate they may be placed where they will have more or less heat and air according to their requirements. These will be among the earliest and principal potted annuals, such as Balsams, Cockscombs, Egg-Plant, Ice-Plant, Phlox Drummondii, Rhodanthe Manglesii, Sensitive Plant, which are all completed in pots; it will make two seasons by sowing now, and two months hence also.

Auriculas.—These should be top-dressed with rich compost, chiefly the dung of poultry well rotted into mould and sparingly applied to them; its own weight of cow-dung also rotted: this, mixed with twice as much rough sand to make it porous, will be found a first-rate top-dressing. Take off the surface without bruising the roots; then fill up with the top-dressing within a quarter of an inch of the top of the pot, water gently, and close up the frame for a day or two, except tilting a trifle behind.

Bedding Plants.—If you are not fully prepared with a sufficient number of these, begin to propagate in earnest, for the next three months must produce you all you require. Cuttings of Geraniums, Hydrangeas, Petunias, Roses of the China kind, Verbenas, and all other subjects used in the beds and borders in large quantities, should be taken now, and struck in gentle bottom heat under hand-glasses. With care, such as watering regularly and wiping the glasses every morning, these things will strike very rapidly, when the sooner they are potted off singly into sixty-sized pots the better. When they are once established and are growing, you may take off the tops to strike others from, while the plants thus beheaded become stronger and more bushy. This does not, however, apply to the Hydrangeas, which depend for their bloom on the top strong bud, and therefore

must be grown on, and shifted as soon as they fill the old pot with roots.

Biennials and Perennials.—The former should, if they are not already in their blooming places, be removed to them in the favourable weather. Canterbury Bells, Rockets, Sweet Williams, Wallflowers, and other subjects used as ornaments on borders, should be always placed there before they make a great advance towards blooming: the autumn is far better than the spring on this account. The latter generally require to be placed where they are to flower, before they progress in their spring growth. All the Phloxes and others should by rights be parted and planted in autumn, but that having gone by, they have to be the more carefully done now.

Box Edgings.—These should be planted and repaired. The entire art of laying down an edging of this description well consists in forming the ridge, against which it is to be planted, true, level, and solid, and in cutting or dividing the Box into small pieces, not only that a little may go a long way, but that it may be weak enough to obey the pressure of a little earth to keep it home in its place. We have seen it dibbled in; but there is no way so true and in all respects perfect as to form your bed, border, clump, or whatever else you choose to edge with Box, the exact figure you want it, by hard treading it on the edge, and putting the soil on until it is quite level and trodden hard; then cut the soil away from the front, or pit side of it, in a sloping direction, exactly the form you require. The top being level, and the sloping front cut even and ready, put small bits of Box close by the side of each other, so that there is no vacancy between them, nor any lapping over each other, pressing the loose earth in front as you go on, to bank the Box into its place, which is with the green half an inch above the top of the soil; while the patch is afterwards gravelled, so that the gravel comes up on the path side exactly as high as the soil on the other. In digging the beds afterwards, the gardener must cut sloping away from the Box, lest he should damage the plantation of Box and loosen the roots.

Bulbs.—Those in the borders will now be making their appearance; but it would be unsafe to fork the surface till it is certain that they all appear, otherwise those under the surface may be spoiled by the fork. Most of them will be little the worse for frost.

Carnations and Picotees.—These must continue to have the same treatment as recommended for last month. Mix up some loam and cow-dung in equal quantities, if not done before; lay them together in a heap to get ready for potting off those plants in their large pots for blooming. Turn it and mix it once a week, ready for potting by-and-by.

Columbines.—These are, as a rule, somewhat neglected; but they are the most elegant of all border perennials, and capable of being produced in almost endless variety, comprising all shades of blue and white, all shades of red and white, and self colours of every shade without white. When perfectly double they are beautifully formed, and whether seen in masses at a distance, or in the hand as a cut flower, it is impossible to admire them too much. As the perennial roots of these will move well now, although there is perhaps little or no leaves above ground, let them be placed at once where they are to bloom.

Dahlias.—All the roots intended for propagation should be potted off in suitable sized pots, with ordinary soil, and placed in a hot-bed; but such tubers as are intended to be merely parted may be thrown into the hot-bed without potting, because when the eyes have fairly started the roots or tubers may be cut in pieces so long as there is one eye to each piece, and the warmth will expose their eyes before potting as well as after it. It is necessary to water the tubers occasionally, or they might dry up; and as soon as they show their eyes they should be cut up as before directed. Pot these pieces in pots as small as will take them, shortening the tuber portion of each so as to fit the pot selected for them, otherwise it would be necessary to have a much larger pot than there is any occasion for. Seed may be sown in wide-mouthed pots or pans towards the end of the month, if you are anxious to forward any particular kinds, only you must be provided with room to accommodate them with proper protection till the middle of May.

Hyacinths.—These will be above ground, and may be covered with litter, to keep the frost from injuring the foliage and spoiling the bloom. They may be watered with liquid manure once as soon as they require watering at all; and the watering should be done in earnest, to soak the ground they are growing in. The liquid manure should be made in the proportion of nine gallons of water to a spadeful of decamped cow-dung.

Mignonette.—Some pots of this favourite and fragrant annual should be sown, and set on a shelf in the greenhouse, or placed in a frame, where they may be continued if required to bloom in pots; or, if intended for planting out in the borders for early blooming, they may be removed to the latter structure as soon as they are four inches high, and kept there till planting-out time. These should be sown in five-inch pots, about a dozen seeds in each, and the young plants thinned out to half that number of the best when they get forward enough to show their strength. Sandy loam suits them best, though the soil is of less importance now than for autumn sowing.

Pinks and Pansies.—Those in beds will be all the better for having the surface of the soil stirred, without in

the least disturbing the roots; after which top-dress the beds with decomposed cow-dung laid half an inch thick all over the surface. Let the litter be laid over at night as usual, removing it in mild weather.

Plants in Frames.—All plants in frames without heat should have as much air as can possibly be given on mild days, the surface of the earth stirred when it seems damp or mossy, and the drainage frequently examined; for in such case it will often be found clogged up by earth at the proper outlet, or the soil so completely run in among the crocks at the bottom of the pot as to choke them altogether. Likewise clear the plants of dead leaves.

Polyanthuses and Primroses. — Search carefully among these for snails and slugs, which attack the tender petals the instant they protrude from the calyx, and if there be any quantity there will not be a perfect flower. Sunrise and sunset, and in dark, cloudy, damp weather, which is favourable to these vermin, is the best time to look, and if they are at all plentiful sow some fresh lime over them occasionally, for that destroys all it touches. Stir the earth between the plants, and keep them clear of weeds. Sow seed in pans, and if the seed be very choice cover with damp moss till it vegetates.

Ranunculuses.—Those intended for the June shows must be planted this month. The beds must be composed of half good loam and half decomposed cow-dung, well mixed; the bed should be dug out a foot deep at the beginning of the month. Leave the soil out of the bed in a ridge on each side of it, until the r2th; put a two-inch layer of cow-dung at the bottom, all over, then return the soil to the bed, leave it for two days to settle; level it, draw drills three inches deep and six inches apart; the tubers are then to be gently pressed into the earth at the bottom of the drill: cover them an inch and a half above

the crown, by drawing down some of the mould into the drill.

Roses.—Prune one-half the Roses in the garden, leaving the other half a month longer to be pruned afterwards. The Chinese and climbing Roses must be pruned but little. the weakly branches removed, and all their dwindling sprigs cut out, but main branches must not be shortened much. The garden kinds must be cut back rather close, not leaving more than the two or three bottom eyes of the principal last year's shoots; also cut out any old wood and branches which cross one another, and are in each other's way. Plant Roses, and whether they be standard or dwarfs, worked Roses, or on their own roots, out-of-doors or in pots, cut the ends off all the roots, clean and take off all bruised portions, use strong loam and dung in equal quantities, and if the soil out-of-doors be not of this description. dig in some stuff of the kind with each plant; but we prefer autumn planting. Do not prune newly planted Roses until you see how much of the wood will break into buds. Graft Roses on common stocks: if well done you will make plants of the prunings of your choice varieties.

Sweet Peas.—Sow a few pots to come in for early bloom. They may be set in a warm frame until they have germinated, then removed to a greenhouse, and finally to a cold frame, where they must be kept till it is safe to plant them out, which can scarcely be before May. About a dozen seeds should be sown in a five-inch pot.

Tulips.—These will be generally up on the protected bed, and the earth should be carefully stirred all over the surface and laid close up to the stems, or rather spikes, which show through. Mat or cover them still for the night, or a hard frost might considerably injure them; and when the rising spike opens, so that water could enter and lay there, they ought not to receive water at all. The patent

waterproof calico covering ought to be placed over the bed to prevent any fall of rain upon them until the bud has fairly risen out of the foliage. This covering is far better than matting, as it excludes no light and confines the natural warmth of the earth. The outer beds, which are, or rather may be, unprotected, should always be loosened on the surface as soon as the spikes are fairly through the ground.

### MARCH.

Alpine Plants.—These may now be shifted, if not done in autumn. A suitable soil for them would be equal parts of peat and loam, with a little sand.

American Plants.—Rhododendrons, Azaleas, and others, will be benefited by a thorough dressing of well decomposed cow-dung. They may yet be removed with care. It is usual to plant them in peat soil, but many will do in loam. They prefer a sheltered situation, and one moderately moist.

Anemones.—The double ones, which are tender compared with the single; should be covered at night to prevent frost from reaching the tubers; those above ground especially should have some light open covering at night up to the middle of May.

Annuals.—Whatever Annuals of the tender kind are not yet sown may be now sown on a slight hot-bed made in the ordinary way, but about two feet high, with six inches of mould on the top; on this you may place a common garden frame or hand-glasses, and sow the seed within the space they cover. Sow the seeds in rows, which is the most convenient plan for keeping the different kinds separate. They must be protected by glass. Hardy Annuals may be

sown in open borders, and, if properly covered up, will not germinate until they will stand the weather.

Antirrhinums.—Last year's seedlings or well-rooted cuttings should be planted out at once. Propagate the good varieties; they will strike freely under glasses with or without heat. Seeds sown now will produce plants to flower in the autumn.

Aquilegias.—Any seedlings should be planted out at once, and a fresh pinch of seed put in towards the end of the month for the purpose of transplanting as soon as large enough.

Auriculas.—These will begin to grow fast; and, unless you are particularly in want of increase, you will strengthen the bloom by taking off the side-shoots small: they greatly retard the main bloom if permitted to grow on the plant. They may have the benefit of warm showers occasionally, if there be such during the month, but they must be shut up and covered at night.

Biennials and Perennials.—Seeds of the former may be sown towards the end of the month to bloom early next season, and any of last year's sowing may be transplanted for flowering. Many of the latter require to be sown now to bloom next year. Established perennial plants, however, may be divided and transplanted during the early part of the month; but the sooner it is completed the better, provided frost does not prevent the operation.

Canterbury Bells.—Plant out any that you have ready for the purpose, and sow more seed towards the end of the month, for succession.

Carnations and Picotees.—Both of these will require the greatest attention; in short, they must not be watered more than is absolutely necessary for their actual preservation. If the soil be too wet the plants will be in danger from damp, for they are very susceptible of cold, and when attacked by frost the fibres are more liable to damage; besides which, the fibres are now growing fast, and are therefore young and soft.

Chrysanthemums.—These should be prepared and planted out in beds or borders, that they may be got into a growing state before the season for striking their tops, or be flowered as they stand. They may, however, if wanted, be increased by division of the root or by suckers from the same. They prefer a compost of loam and cow-dung in equal proportions.

Climbers.—Such as have been protected up to the present time may be uncovered by degrees; it will be necessary, however, to keep them covered at night. See also to the pruning of them, and the tying up or nailing in of the best-ripened branches.

Crocuses.—So that you may know them, or rather the best varieties, when you take them up, make it a practice to label each at the time of planting. Keep the soil round and about them free from weeds, and well loosened by means of the hoe at all times.

Dahlias.—Those which are not yet potted and set to work may be done at once. Put them in pots no larger than necessary; and, indeed, some of the tubers may be cut away, to prevent the necessity of using one too large. Here they will throw up their shoots from the collar when they are put into heat, and the cuttings must be taken off as soon as they have three pairs of leaves. Those who have followed our previous directions by this time have cuttings well rooted. If they are in pots holding more than one, they must be placed in pots singly; and if any of them are of scarce kinds, which you are desirous of propagating, they may have their tops cut off just below the third pair of leaves, and these tops may be struck as other cuttings. The plants will strike out shoots on both sides,

which in turn may be shortened; and thus an early struck cutting may be made the means of producing a number of plants, which is occasionally a great object, although it does not produce them so strong nor so serviceable as those of the first strike from tuber shoots. It is questionable, also. whether a plant so produced will bloom so well, although there are kinds that do not suffer from such treatment. the cuttings, struck and not struck, should be watered over the foliage as well as at the roots, and be shut up and shaded for a few hours. It is a very good plan to water in the evening at shutting-up time. As those plants which are not intended to be cut down grow strong, they should be removed to a cooler frame, that they may become gradually more hardened; for, although nothing short of frost will hurt them when prepared by cooling gradually, they would suffer considerably if taken from a hot-bed to the open air direct. In potting the tubers for breaking the buds to form cuttings, every appearance of decay, however slight. should be removed, even if it cause two-thirds of the tubers to be cut away. Seedling tubers that are to be planted whole may be at once put into the ground four inches deep: they will not come up before the time they will bear the weather.

**Evergreens.**—Although the early part of the autumn is preferable for transplanting these, you may, if absolutely necessary, perform the operation now.

Fuchsias.—Those in sheltered situations may be partially uncovered, and, where necessary, the shoots may be cut back to fresh buds and the plants trained to one leading stem. If they are much injured, cut them down to the ground, and they will throw out young shoots from the roots, and thus form compact and handsome bushes.

Grafting.—This month you must pay attention to such choice and ornamental trees and shrubs as are increased by

means of grafting. If not already done, the grafts should be cut before they begin to start.

Hyacinths and Narcissus.—The out-of-door beds will require protection by means of hoops and mats as for Tulips. Forced bulbs which have done blooming should be hardened off in a cold frame, and planted out next month in a warm, sunny situation, where they may perfect their foliage.

Mignonette.—Seed of this fragrant flower may be sown in the open borders as soon as the soil is in a fit state for working, or in pots for turning out later in the season.

Mimulus.—This may be increased by division of the roots, and planted either in patches or in beds. Seed may also be sown for successional purposes.

Ornamental Trees and Shrubs.—These may be propagated, according to their respective natures, by cuttings, layering, and grafting.

Pinks and Pansies.—Put out those of the former which have been kept under hand-glasses, planting them a foot apart in sandy loam, leaf mould, and rotten cow-dung. The latter will this month commence to bloom out in the open air, and all of them begin to grow fast, unless there is frost to check them. It is well to cover them with any open litter, such as pea-haulm, which keeps off a good deal of frost, protects them from all the cold winds, and does not exclude light. The beneficial tendency of this kind of litter to all dwarf plants through the winter and early spring months is either not half enough known, or, being known. not sufficiently practised. Those in pots under glass should be shifted, if not done already; or if intended to be planted out in beds, the sooner it is done the better. If there be any shoots of choice sorts that you are desirous of propagating, and that can be spared without spoiling the appearance of the plant, they may be struck very easily under a bell-glass, and in any slight hot-bed that may be at work—not that heat is necessary, but that it hastens the striking, and therefore, for choice things, is better than waiting for the ordinary method; otherwise they will strike in the cold frame. It must be recollected that in all cases where bell-glasses are used, the inside should be wiped dry every morning, and the compost kept moist, but not wet.

Ranunculuses.—As soon as these are planted, they should be covered slightly with litter, to prevent the frost penetrating the ground to the tubers; and if any of them are not yet planted they should be got in at once, as advised last month. In very mild weather they will frequently be above ground before the end of March, and there is a double-reason then for covering; but in all cases the litter should be removed in warm genial weather, to let the beds have all the advantage of sunshine; it will be unsafe, however, to leave them uncovered at night, after they are once in the ground, until the middle of May.

**Seed-Pans.**—Those which have been covered over with damp moss ever since the time of sowing should have the moss removed as the seeds germinate, so as to expose them by degrees to the light.

Stocks.—Pot off and prick out the early sowings, which may be removed to a cold frame as soon as well established, for the purpose of hardening off previous to turning them into the open borders. Such as have been wintered in pots may be planted out where they are to bloom, eighteen inches asunder in every direction, selecting for the purpose soil that has been well manured.

**Sweet Peas.**—Those sown last month may be hardened off, and a further supply of seed got into the ground for succession. They may be sown either broadcast, in patches, or in drills.

Sweet Williams.—See to the planting out of last year's

seedlings, in rows or in masses, and sow again for succession towards the end of the month.

Thrift Edgings.—These may be taken up, parted, and replanted, as unless this is done every two years they become wide and untidy.

Tulips.—To grow well, these require very great care. In a word, on coming through the ground, they crack the surface of the bed all over, for the rains will have closed the compost at the top until such time as the spikes break through. The whole of the surface should be stirred, and any lumps bruised, so that it may be laid even; it is of the greatest benefit to the bulbs to give them air, and just as beneficial to the stems to lay the soil pretty close to them. Should any vacancies occur—where the plant has not come up, while the majority have—it will be necessary to search carefully for the cause. Sometimes a stone or a solid lump of dirt will have turned the spike downwards or sideways for a considerable distance, and thus thrown it behind. Timely removal of the obstacle will relieve it, so as to make the delay of small importance. It may be, however, that the plant is affected; the outer leaf may have begun to rot. or, as is sometimes the case, may have so closed over the other as to prevent its growth, and even cause it, if neglected, to decay instead of grow. The decayed part must, in such case, be entirely removed with a sharp knife. and the plant be laid bare down to the bulb. It should then be covered a few days with a bell-glass, and as it progresses the hole filled up with fresh loam (for by no means ought the old to be returned to the place), and all the portions of the rotted leaf or leaves should be thrown away from the bed. The covering at nights, and not uncovering even in the day if there be frost, must be strictly attended to. Should the weather be mild towards the end of the month, and there be refreshing warm rains, it will be of service to let the tulips have them; but be doubly careful that the frost does not reach them afterwards. Tulips do not want much wet as a rule, but the foliage acquires strength by a warm shower. In continued dry weather, it is advisable to give a gentle watering all over the foliage, but not in such quantity as to penetrate the earth much.

Violets.—These must be kept perfectly clean at all times. Provision should be made at the end of the month for the following season, by planting out the young rooted runners in frames upon a rich soil; keep them close, and shade them for a day or two; then give them plenty of fresh air, and ultimately remove the sashes altogether. Another plan is now to scatter some fresh soil over the beds, in which the young runners will root, and early in autumn take them off and plant them in prepared beds or frames.

# APRIL,

Alpine Plants.—Any spare plants may be put out in romantic spots, but take care to keep duplicates of the better kinds in pots. As a rule they may now have an increase of moisture.

Anemones.—Seed may be sown early this month on a loamy soil of a medium texture and richness. The best plan of separating the seed, which is of a fluffy nature, is to mix it with silver sand. Sow thinly, and cover slightly; should the sun be particularly scorching it will be necessary to shade the bed.

Annuals.—Harden off and plant out those of the hardy kinds kept in frames, and sow again early. The half-hardy sorts must be shifted. Preserve some of the best to flower in pots, and put out the rest by the end of the month in a good situation; protect them by inverted pots, or some such means, from sun, cold, and wind. A sowing may be made both in heat and in the open border. So far as heat is concerned, the slightest kind of hot-bed will suffice. For the purpose of keeping off vermin it is a very good plan to place a ring of quicklime round the bed or patch.

Auriculas.—These are now rising for bloom fast. If the pips in a truss are crowding each other, take out some of the smallest and weakest, leaving about eight to perfect themselves; but if there be a large number, thin them out only sufficient to give room to the remainder. Towards the middle of the month they will begin to show colour. They must then be removed to a shady situation, where they must be thoroughly covered from cold winds and shaded from the sun. The smallest check by frost or cold winds will spoil the bloom. As they open, there should be bits of cotton or moss stuck between the footstalks to keep the truss all in its place, and give the flowers room to open properly; they will then blow in perfection.

Biennials and Perennials.—Sow this month or next, that they may acquire growth and strength during the fine months. As soon as they are large enough to handle conveniently they may be planted out in nursery-beds, where they will become stocky and fit for planting out where they are to bloom before the winter sets in, autumn removal being far better than spring.

Borders and Beds.—These will, by this time, show all their bulbs and herbaceous plants, so that the surface may with safety be stirred up and raked over; whereas if you began before all these things were above ground, although labels might point out the places, there would be risk attached to the operation.

Bulbs.—As these come into flower examine them carefully and see that they are true. If the different sorts or

colours are mixed, mark them while in bloom, so that the mistake may be rectified when the roots are taken up. When the ground is required for other plants the bulbs should be taken up on the first calm moist day that occurs, and carefully laid in by the heels so as to ripen their foliage without being again disturbed. If this is done carefully they will suffer little, if any, from the change.

Carnations and Picotees.—Pot these in seven or eight inch pots (called 12's or 8's); put two inches of crocks at the bottom, then a quantity of mould got ready in February and turned over weekly since. The pot containing the plants must be turned up and struck against the potting bench, when the ball of earth will leave it; rub off the surface a little; now let this be adjusted in the large pot, to bring the collar of the plant, that is, the lowest part of the leaves, within half an inch of the top edge; fill up all round, and water gently. Let them be under glass if possible, or at all events in a sheltered place, and be carefully looked after, that they may neither be too wet nor too dry. All those that cannot be potted for flowering 'should be planted in rows two feet apart, and half that distance asunder in the rows.

China Asters.—The principal batch of seed may be sown on light rich soil, under shelter; it is not necessary to provide heat for this purpose. Any already up may be pricked out as soon as they are large enough to handle conveniently.

Climbers.—These will be benefited by thinning the shoots; after which you should regulate and tie or nail in every branch that requires it. As this can never be so well done, or done at all without injury, if the shoots are once allowed to get entangled, the sooner it is seen to the better.

Crocus.—Towards the end of the month the leaves may be tied up in knots out of the way of other plants until well ripened; meanwhile the ground can be sown or planted if necessary.

Dahlias.—Remove such plants as are large enough for planting into a cool frame, and be very careful that no frost or cold winds can reach them, for they are very tender. Continue taking off cuttings and striking them singly in pots, if you have room; if not, you may place a number of them round the edge of a larger one. Take the tops off the forward plants, of which you require great numbers, and replace the beheaded plant in heat to throw out its sideshoots.

Fuchsias.—The coverings may be removed from these by degrees, the shoots judiciously thinned, and, where desirable, the plants may be trained with one leading stem.

Gravel Walks.—These should be turned towards the end of the month and rolled smooth—it gives them all the appearance of new ones; but if the gravel is too dirty or too thin a fresh coat of it will be necessary.

Hollyhocks.—Seed may be sown during the month for next year's flowering, on a compost of rich loam and wellrotted dung in equal proportions.

Hyacinths.—The beds of these plants should this month be slightly protected at night and during heavy rain, or otherwise you must not expect to get fine blooms; they should likewise be shaded from intense sun heat. Pay particular attention to the watering of the beds in dry weather.

Lawns and Verges.—In the case of the former, when the grass is rather thin, either scatter some rich soil mixed with some of the proper fine lawn-grass seeds, or lay fresh turf. If it is not very bad, the first is the plan; but autumn is the most suitable time for the operation. All lawns should be frequently rolled, swept, and mown. Much of the beauty of a lawn during the summer depends on commencing to

mow early in the spring, and repeating it as frequently as once a week.

Lobelias.—The various kinds are all worthy of attention. The herbaceous perennial varieties should be separated, and repotted into light soil, and placed in a slight hot-bed for a week or two; after which prepare a place for them by well digging and richly manuring it.

Mignonette.—If you did as advised last month, sow a few pots of seed; they will be ready for planting out about the middle of this month to give instant effect. Likewise see to thinning out any that was sown early out-of-doors.

Pinks and Pansies.—Beds of the former may be yet made; but the greatest caution will be required to remove the roots whole, to prevent their losing the moisture by exposure, and to keep them out of ground as short a time as possible. The bed should be formed of rich compost: that is to say, rich in vegetable mould, or leaf mould as it is called, and thoroughly decomposed cow-dung, which is formed into mould also by decay. The pink always requires plenty of vegetable matter in the compost, and the more requisite does it become when they are removed late. They should be planted six inches asunder in rows across a fourfeet bed. The latter may now be bedded out. A batch of struck cuttings should likewise be planted out every fortnight for blooming, if flowers are required for exhibition; for they go off blooming sometimes a while, and it is better to depend on several seasons of planting than on one. Plant at least six inches apart, and not more than seven in a row across a four feet wide bed.

Polyanthuses.—Treat these in precisely the same manner as Auriculas, if they are in pots; but if in the open border, which is by far the best way of growing them, stir the mould up between them, and give a good dressing of leaf mould and well-decayed cow-dung, that is, cow-dung

rotted to mould. Remove dead leaves, and guard all round the bed from slugs with some fresh lime, which will keep them away altogether; but the lime must reach all round, or they will be able to get to the plants, and they are not long in destroying them when they once begin.

Ranunculuses.—Stir the earth between them, break it small, and close it about their roots. Continue the protection by means of loose litter, not only at night, but in cold, raw, wintry days, of which there may be many yet.

Roses.—If the opening buds of Roses disclose any symptoms of disease, they must be examined and the grubs picked off. The latter end of the month that portion of Roses left unpruned must be seen to in this respect in the same manner as the former ones were; it will throw the flowering back a month, and make a second season.

Shrubs.—It is a late period to plant these; but if you have not already done all you want in that way, you must exercise your ingenuity to remove them with as little disturbance to the roots as possible. Many deciduous plants cannot be removed, for they are growing rapidly, and would flag past recovery for the season, if not actually die, with all the care that could be used. The exceptions are such subjects as are growing in pots, which can be removed at any time and in any weather by taking the precaution of soaking the whole ground around them with water; but if they are turned out of the pot in dry weather, when the earth is parched, and merely watered in, as too many do such things, the parched earth around soon absorbs it all, and the plant suffers in consequence. It is well to do all these unreasonable movings after wet weather has prevailed; but when you have not this opportunity, and do not like to wait for it, soak the ground completely all round for some distance, and follow it up by daily supply until the rain relieves you of the labour.

Stocks.—Many may be planted out, and others brought on to follow them. German Stocks sown now will bloom finely in the autumn; the soil must be rich and well worked. The following kinds are all good and more than good:—the Large-Flowering, East Lothian, and Newest Giant or Tree Ten-week.

Sweet Williams.—A good bed of these should be sown at once from the best selected seed that can be obtained, either the Auricula-Eyed or Hunt's Improved.

Tulips.—Continue the greatest care of these delicate subjects, not permitting the frost on any consideration to touch the best bed, on account of the damage it does to the bloom, for the plant hardly feels the hardest frost even when it reaches the roots. Pay great attention to the eradication of weeds, and protect them against high winds. although a gentle agitating breeze does not by any means hurt them. Cover at night even if the weather be warm: but they should be uncovered by daylight, weather per-Gentle showers will not injure them; on the contrary, if mild, it does them great service; and if the weather be dry and parching be not afraid of springing the foliage If, despite your care, the frost does catch them. overhead. syringe them all over with cold water, and let no sun reach them till they are thawed. If the earth was not stirred between all the bulbs last month, it must be done directly; and if they have had much rain since it was stirred, so as to cake the surface and make it run close together, it may be gently stirred again. If any of the foliage has a vellow spot on it, or any appearance of canker, remove the affected part with a knife; for if the entire foliage above ground be cut away there is more chance of the bulb escaping than if the canker was left on, for its increase, until the very heart of the plant and the bulb itself is rotted, is a certainty.

Violets.—Fresh soil should be strewed over and about

the old plants for the purpose of encouraging runners, from which young plants will issue; these, as soon as well rooted, may be transplanted.

Wallflowers.—Seeds of the single varieties should be sown towards the end of the month for next year's blooming. A good supply of cuttings of the double ones may be got in also. The kinds most worth seeking for are a double bloodred, flowers very dark; a double bright yellow, brilliant colour, and with narrower leaves than any of the others; a dwarf dingy double yellow, called the Hornet; and a double purple, which has flowers of a peculiar purplish tint. These should be rooted under hand-glasses, and kept in pots through the winter.

Watering.—The different kinds of choice flowers will require moisture in dry weather; in short, a good deal of their success depends upon their being properly watered when the blooms are advancing.

#### MAY.

Anemones.—The autumn-planted ones in a forward state will require nothing just now but watering. Seedling beds must be kept clear of weeds, and any in bloom at the present time may be marked for the purpose of growing, or rejected if necessary. Seed may be sown on an open bed of rich, light soil.

Annuals.—Any that have been raised in heat may be planted out in beds and borders, where they are to flower, or be potted off, particularly Balsams and Cockscombs for blooming in pots. A second sowing may be made in the beds and borders of those which were sown in heat in April for planting out and potting, such as Stocks, Asters,

Nemophilas, Phlox Drummondii, and French Marigolds. Those ready for planting out should be got in after rain. They will bloom much earlier than those sown now, which will succeed them in flowering.

Antirrhinums.—Hoe between the rows of these in the open ground, and shift those in pots to others the size they are to bloom in. We are now speaking of the fancy varieties grown in collections. Seed may be sown for raising new kinds.

Auriculas.—As these decline their bloom, they should be placed on hard ground, where they may have all the wet and air; and if the seed be not wanted, pick off the vessels, but do not cut down the stem. Those who have the convenience should place them in frames, where they may be allowed all the genial rains, and yet can be shaded, and, if necessary, covered from an excess of wet.

Balsams.—Shift these into larger pots as they fill the old ones with roots. Keep them in a hot-bed near the glass. At the end of the month you may plant out any number in the common border.

Beds and Borders.—These generally must be kept clear of weeds, and any vacant places should be filled in with seeds or plants ready to put out. Place stakes to such subjects as require support. In filling up either beds or borders, all the taller subjects should be placed in the centre or at the back, as the case may be, and the lower ones towards the front, so as to form a sloping bank of bloom.

Biennials and Perennials.—Seed may be sown of such subjects as Delphiniums, Everlasting Pea, Pansy, Hollyhock, Antirrhinum, Polyanthus, Carnation, Picotee, Auricula, Foxglove, Columbine, Pink, Canterbury Bells, Wallflowers, Sweet Williams, and Chrysanthemum in the open borders; and Dahlia, Cineraria, Calceolaria, Verbena,

Petunia, Primula sinensis, Geranium, and Heliotrope in a slight hot-bed.

Campanulas.—The Chimney varieties should now be shifted into their blooming pots in rich soil, and be allowed to grow in the open air. As the shoots rise, regulate the number you want, and cut the others down. Stakes should be placed to them afterwards, to which they are to be trained.

Carnations and Picotees.—These should be well watered, and traps must be set to catch earwigs and other vermin. They ought to be placed on a stage, or on shelves so constructed that the legs or supports may stand in dishes or saucers of water. The stakes should be placed in their pots at once, if not done already. It is a bad plan to neglect this too long, as it may damage the fibres when they once begin to spread in the pot.

Chrysanthemums.—Cuttings may be struck now as well as at any time, but the later they are taken from the tops of well-grown plants the better. Those struck now may be grown until July, when their tops may be struck again, and form very dwarf plants, while the stems of those they are taken from may be converted to fine bushy ones. They will strike freely now under a hand-glass in the common border, or in pots under a bell-glass.

Climbing Plants.—Those on walls should be fastened securely and neatly as they grow, particularly weakly subjects like clematis, which break with the wind if permitted to hang about. They should never be neglected two days, for they are always the worse for it.

Gockscombs.—Keep these without water until they are starved into the premature showing of their blooms, or combs, when the roundest and fullest are to be selected and potted singly into sixty-sized pots, put into a hot-bed in good condition, kept near the glass with plenty of water

and heat, and, as they fill the pots, changed to larger ones, constantly kept up to the glass with unimpaired heat.

Crocuses.—As soon as the foliage or grass of those bulbs that are to remain in the ground turns yellow, it may be cut even with the surface of the soil. All that are wanted up may be lifted at once, and kept, with their names, dry and cool.

Crown Imperials.—As soon as the foliage fades into yellow, cut them down to the ground, or dig them up; but such soft bulbs should never be kept long out of the ground.

Cuttings.—Now is the time to take cuttings of the principal biennials, perennials, and other plants, and strike them under a hand-glass, without the aid of heat.

Dahlias.—These may be planted out about the middle of the month, both those from cuttings and those from parting the roots, also old roots that have not been parted or propagated. Dahlias in plantations by themselves should be six feet apart every way, and have their stakes driven down before they are planted, that they may be tied up at once to protect them from wind. Lay all sorts of traps for earwigs directly, and hunt them industriously. Take off cuttings and strike them one in a pot. There is nothing so good for this as a common dung-bed; but the propagating house is available. Until you plant out, those which are struck should be put into cold frames, not to be subject to the weather, but to be gradually inured to out-of-door treatment till the middle of the month, as already observed, when they may be planted out where they are to bloom.

Evergreens.—Examine the better kind, especially specimens, and where there are branches growing out of form, take the tops off, or shorten the branches still more than that; remove very weak shoots also, and give air, light, and sun by cutting out wood where it is too crowded.

Gladiolus.—These merely require to be kept clear of

weeds, watered in very dry weather, and have the surface of the soil loosened a little.

Hollyhocks.—Any of these in exposed situations will require stakes like Dahlias, but if well sheltered they will not need such assistance.

Hyacinths.—As soon as the foliage decays, take them up carefully, dry them properly, and remove the offsets for early planting. While the large buds are for disposal in the best beds at the proper season, some of the late ones will not perhaps be ready till next month; shade these from the sun to prolong the bloom.

Iris.—The perennial kinds in all their variety (that is, those with tuberous roots) should be kept clear of weeds, and the soil loosened round their patches. The bulbous-rooted sorts should have their beds watered, should the weather be very dry; they will likewise need shading as soon as they show colour.

Lilies.—The large-flowering sorts in pots should be sheltered—not that they are tender, but they would suffer from wind and rain. The proper place for them is the cold pit. The hardy kinds in the borders require no care whatever. Seedlings of all varieties should be kept perfectly clean.

Lupins.—There is scarcely a family more numerous than the Lupin, from Lupinus nanus to Lupinus Cruikshankii. They are of all sizes and colours, but the most superb is Lupinus polyphyllus, which has a magnificent spike; nor is it the less acceptable on account of the many shades of colour which distinguish it from more common ones, nor for being a very hardy perennial. We reckon it so necessary an appendage to the border, that we recommend sowing a few seeds for the sake of possessing whatever new varieties may come, and enabling you to throw away any that are worse than the parent plant.

Mimulus.—Seed may be sown the beginning of the month in clumps at the foot of trees, or in beds by itself, where they may bloom without any further trouble, save that of keeping clear of weeds. Those, if any, sown last month in pots may be planted out where they are to flower.

Pinks and Pansies.—By the end of the month you may reduce the flower-stems of the former to one on each plant. Top-dress, if not done already, with decomposed cow-dung, keep clear of weeds, and water in dry weather. The latter are now in perfection, and will require to have particular flowers shaded, but not whole beds. Take off cuttings, or, which is better, side-shoots, and strike them under hand-glasses in the common border.

Polyanthuses.—Those in pots should be put out after flowering; and if necessary, for increase, they may be parted carefully, so that a heart may have a piece of root; plant out in good strong loamy soil, and in a situation not reached by the mid-day sun. Sow seed in large pots and keep them in a frame.

**Primroses.**—The double crimson, purple, and white having now passed their flowering, they may be parted like the Polyanthus, every heart with a bit of root to it, and be planted out six inches apart in every direction, to grow into strength again.

Ranunculuses.—Stir the earth between the rows, water when necessary, and effectually when you do it. The autumn-planted, now in bloom, may require watering and shading also, to preserve their colours and prolong their season of flowering.

Rhododendrons.—Those which have been protected are for the most part in bloom, or have passed their flowering. This being the case, no time should be lost in removing the bunches of decayed flower and seed-pods, especially the latter, which, if allowed to swell, detracts greatly from the

growth; so much so that it is a very common thing for the plants left with their seed on to fail altogether to produce bloom for the next year. For this reason make it a practice to take off the bunches of seed-pods as fast as they appear. Such plants as show a disposition to grow out of form should be pruned into shape before the growth begins. However, those plants which have been unprotected have not bloomed yet.

Shrubberies and Lawns.—The former should be gone over every now and then for the purpose of examining the various trees and shrubs, especially such as have been planted very lately, as it will be necessary to supply them with moisture for a time, and occasionally extra support. The latter will require mowing not less than once a week during the present month, as if the grass goes longer it will be injured for the year.

Transplanting.—Under this heading, or rather side-heading, we shall include several operations which amount to very much the same thing. All the annuals which have been either grown in patches or pots may be taken up and transferred to the places where they are to bloom; such as are to be bloomed in pots may be shifted to those a size larger as soon as those they occupy become filled with roots; others that have been protected all the winter may be shifted to the various beds and clumps—such, for instance, as Hydrangeas, Geraniums, Fuchsias, Verbenas, Petunias, Calceolarias, etc.—without fear of having them damaged by frost.

Tulips.—These are now coming into bloom. Keep the sun from once shining upon them after they show colour. Should the weather be exceedingly sultry, water the paths in the tulip-house, but not the soil in which the bulbs are planted. They do not require wet, but the paths will be all the better for watering. Look over all your seedlings

as they flower, that you may discard at once and for ever all those which prove worthless, and so reduce the stock. Shade any particular flowers that may be in the out or seedling beds.

#### JUNE.

Anemones.—Where the leaves of these have turned yellow they may be taken up, dried, and stored like Ranunculuses, except that, as the tubers are larger and hold more moisture, they will require a longer time to dry. Shade those in bloom for the purpose of prolonging their season of flower.

Annuals.—Those sown in the borders in patches will require regulating; that is, they will need thinning out so as to leave only three or four plants of some large kinds and half a dozen of the smaller sorts in a patch, because if they are too thick they will choke one another, and the plants grow weak and straggling in consequence. Annuals that require planting out, or rather transplanting, should be seen to early this month, if not done last; otherwise they will not follow up in regular succession.

Auriculas.—Those now enjoying all the weather must be examined every now and then, to see that the drainage is quite clear, for the soil will frequently wash down amongst the crocks and fill up the hole. Pick off all yellow leaves, earth up those which have offsets, so that the base of the offset may be in the ground or soil, as they make plants sooner provided they strike root before they are taken off. Seedlings may be potted off singly in small pots as soon as they have half a dozen good leaves; but they are better in frames than altogether exposed at first, because their mois-

ture can be better regulated, and their shading can be adapted to their degree of strength. Smaller seedlings may be pricked out from the seed-pans, and put six or more in say sixty-sized pots, or in a pan, an inch apart all over; but as those which touch the edge of a pot advance faster than such as are planted in the centre, we prefer small pots, and putting only as many as can be got in round the sides. Watch the seed-pods of all that are being grown for seed, and gather before they burst, or the seed will be lost.

Balsams.—These may have the same treatment as before; but as they increase in height they must be sunk lower in the bed or pot. A warm pit is the best place for them, where they can have abundance of light and heat, and be easily got at to shift from one sized pot to another. They may also be planted out in the common borders, and look best when put out three in a patch, because, as they are of different colours, they form a better contrast. These will be a good succession to any planted out before, or, if they have been advanced much in pots, they will very likely flower before them; anyhow they will form two seasons.

Biennials and Perennials.—Such as are large enough for planting out towards the end of the month should be placed at a sufficient distance from each other to enable them to grow and flower without further disturbing. Lupins, Canterbury Bells, Wallflowers, Sweet Williams, Columbines, and such like may be nine inches; Polyanthuses and similar close-growing subjects, six inches asunder. Let them be in beds four feet wide, with alleys between of one foot.

Carnations and Picotees.—Those throwing up their bloom-stems must have them regularly tied up to their stakes; and as soon as the buds are large enough, all the lower ones should be picked, and not more than two or three left on each stem, nor must any plant have more than one stem left on it. It is necessary to pay the greatest attention to them, not less to their general health than their freedom from vermin; that is to say, if there be the least symptoms of the green fly, they should be fumigated, if you have a room to shut them in; and if not, they should be washed and syringed, first with tobacco-water and next with clear water—for if once the green fly prevails, the plants will be weakened and the bloom in consequence impaired.

Cockscombs.—These must be shifted from small pots to larger ones every time the former become filled with roots, and the heat of the hot-bed should be kept up by means of fresh linings as fast as it appears to decline. Keep the soil moist and the plants near the glass, for they will depend more upon the continuance of proper heat and moisture for their beauty and full growth than any one imagines, unless he has grown them.

Cuttings.—Before any of the plants intended for bedding, such as Fuchsias, Geraniums, Heliotropes, etc., are planted, all the long gawky shoots and all spare pieces should be taken off—first, that the plants put out should be pretty uniform; second, that the cuttings may be struck for late planting. At this time of year they may be put in the common border in the shade, under a hand-glass, and they will strike freely. All rooted cuttings in pans or pots should be potted off singly in sixty-sized pots.

Dahlias.—Continue to fasten these rather loosely to their stakes as they progress in growth, and, above all things, examine frequently the pots for earwigs, and destroy them as fast as you can. Be in no hurry to commence watering them, with the exception of when they are planted, at which time the whole ground should be soaked well, but let them seek their own by going down after it before you water again, unless the soil is very light and not over rich. They will in all probability be attacked by the green fly, and

perhaps by a little green caterpillar or grub. For the first, syringe pretty sharply with a fine rose, but with considerable force, and thus wash them off; but if this does not remove them in one or two syringings, let it be done with tobaccowater one day, and clear water afterwards. For the grub there is no remedy but examining the plants and picking them off.

Hyacinths.—Those which have done flowering, and the foliage of which has begun to turn yellow and decay, should be taken up, and, after drying in the shade, cleared of their roots and leaves, and packed away where the air can get at them, but no sun nor damp.

Paths.—Pick up and turn all gravel walks, beginning by chopping up all weeds and clearing the surface; then with a common pick loosen the gravel from end to end, and with a spade turn the clean side to the top, and the dirty side to the bottom; but if the walk be too thinly gravelled to do this, take the rake to it after it is loosened, and merely freshen it up a little. Let it be well rolled afterwards, and keep it rolled after rains, as indeed all gravel walks should be, whether disturbed or not.

Pinks and Pansies.—The former are now rapidly sending up their bloom-stems, and although many persons will leave no more than one stem to a plant, we cannot recommend it. There are, however, some large Pinks that will be more tractable if not permitted to retain all their buds, because their great fault is being too double and too large; but these are the exceptions, and are soon discovered. In a general way, reduce the buds to two or three. The grass at the bottom of the Pink may be thinned off, and the pieces struck, or piped as it is called. They are to be cut up to a joint, the bottom leaves taken away fully an inch high up the stem; the leaves are not to be shortened. Now make up a bed of light rich soil, and saturate it with water, putting the

pipings in within an inch of each other, in a square place that a hand-glass will just cover, and having given a little water to settle the earth about the stems, cover them up: they will require no other attendance till they strike, unless it be a little water if the earth gets too dry. Blooms of the latter will require shading individually from the heat of the sun, but the bed must not be confined, for it would draw the plants; or if the bed must be shaded, let it be by a side wall of matting, and not a complete cover. the small side-shoots from all the plants you wish to propagate, and constantly set them to strike. New beds ought to be made two or three times a year, besides the original autumn-made ones. The side-shoots strike rapidly under a hand-glass even in the common border, and a trifle of bottom heat will hasten the striking. You may make another bed of struck cuttings any time this month, and those plants that have bloomed and declined may be cut down to break out anew, if required.

Ranunculuses.—Those intended for exhibition must now be shaded and well watered; but to be effective the shading should be at a distance. Upright poles or stakes, and a mat wall so placed as to shade the flowers properly from sun, all but an hour in the morning and an hour in the evening, is the best way of doing it without drawing the flowers or making them weakly. The colours are injured by covering; they want the light and air as free as they can be given without sun. The autumn-planted Ranunculuses which have begun to turn yellow should be taken up, as they frequently suffer from vermin when left in the ground too long. There is no occasion to wait till the foliage decays; when it turns yellow the plant has done all it can, and the sooner the tubers are up and dried in the shade the better.

Roses.—These may be budded as soon as the stocks

have grown enough to offer an opportunity; their bark should readily peel off. The following is the method of doing it:—Take a bud from a Rose you wish to propagate; cut it off with a leaf and half an inch of the bark, very thinly; then cut a slit an inch long down the branch which is to receive the bud, and cut it across in the middle, thus forming a cross. With the handle of the budding-knife, or a sharp piece of wood, raise up the bark on both sides, tuck in the bark of the bud under each side of the bark raised in the stock, fit the leaf and its bud exactly at the cross point, tie the bark of the stock down with worsted yarn or bastmatting, cover it with loose damp moss for a few days, and the union will be complete; then cut away all the useless portions of the stock. China Rose cuttings may also be struck under a hand-glass in the common border.

Seed-Vessels.—If these are to be saved, let them be watched and gathered as they approach the ripening season; but if seed be not required every decayed flower should be removed before the seed-pods swell, for nothing so completely destroys the flowers of anything as allowing the pods of seed to swell instead of removing them. Let one patch of Sweet Peas be allowed to bloom and not a flower to be cut, and let another have every flower cut off the instant it begins to fade; those which are allowed to seed will be completely out of bloom and full of the seed-pods, while the other continues to grow and bloom for weeks afterwards. It is the same with all flowers.

Tender Plants.—Complete the planting out of all the ordinary tender border flowers, as well as Geraniums, Heliotropes, Hydrangeas, and Verbenas. Geraniums should be planted singly, turning the balls out whole, and allowing room to grow; those planted in beds and clumps should be a foot apart, for they will grow close enough very soon. Balsams, Stocks, Asters, and the like should be put out

three in a patch, within six inches of each other, in a sort of triangle; they will grow into one another, and being different in colours will have a very pretty effect. All this planting should be done early in the month.

Tulips.—At the end of the month the best bed may have begun to show symptoms of decay; as soon as the top of the stem shrivels, they may be taken up, and the stems cut off, but not cleared of the mould. They may be laid in their boxes dirty as they are, to be cleaned after they have thoroughly dried in the shade. Those in the out beds may also be taken up as soon as their stems turn yellow at top; but all those which have seed-pods will not have begun to decay, and when seed is wanted they must be left until the pods swell the full size, and begin to turn brown.

Watering.—This is an operation that requires repeating frequently during the month, but it ought only to be resorted to in the greatest emergency. Unless things are perceptibly suffering for want of it, it ought not to be made a practice of: it is the commencement of bad habits. Plants. like people, may be spoiled: help them, and they will not help themselves; teach them self-reliance, and they make shift without assistance. As an example, if we begin watering plants the roots no longer go down after moisture—they come up after it, and we are forced to continue it; but if we are obliged to water, let the whole space of the ground be watered alike, the same as a heavy shower of rain would Common surface watering is worse than none. farce of sprinkling the ground that it may look black and wet for an hour is amusing enough to those who know better: but, as we have always said, a thorough good watering once a week is far better than the ordinary sprinkling of the surface once a day.

Weeding.—Unless the greatest activity is observed now in the removal of weeds, they will rapidly overrun the flowers,

and seed before you are aware of it. Make a rule of stirring the surface of the beds and borders in dry weather once a week at least; it is the only way to keep weeds effectually under control. Weeds that grow up in patches of seed should be drawn out by the hand; but before that is attempted the ground should be well soaked with water, that they may not only draw easy, but come out without dragging the plants with them. The beds of seedling biennials must be carefully gone over, and should be thinned a little as well as weeded. For this purpose water them well first; merely remove those which are too thick to grow well enough for planting out, for if they are too thick in the seedbed they become spindly and weak, and there is no making them into strong bushy plants.

## JULY.

Anemones.—As these die off they should be taken up and their tubers dried in the shade, where there is free access of air and light, and when perfectly dry be packed up in thin bags and boxes.

Annuals.—Any late ones may be planted out at the beginning of the month where they are to bloom. Weed those in beds and clumps, and draw some out where they stand too thick. Sweet Peas must have good supports, which must be supplied early; that is to say, before they begin to straggle and become entangled. Stir the earth of the borders where they are for the purpose of clearing the weeds. Annuals in pots—we mean of the ordinary kind—should be placed in the open air, rather shaded, and be copiously watered.

Antirrhinums.-Many of these require support, and

where they do lose no time in giving it to them. Examine all seedlings as they come into flower, and select only such as have good properties for growing another year.

Auriculas.—It will be necessary to shade these from the heat of the sun, if they are not already placed where they can have it. Examine their drainage, and where it is defective repair it at once. Take off dead and dying leaves, and if they are too wet let them be occasionally covered against rain. Prick out any seedlings that may be large enough, an inch apart, round the edges of pots.

Balsams.—Continue to shift these into pots a size larger, as those they occupy become filled with roots, and keep them near the glass, where they can have plenty of air during the heat of the day. Those that you do not mean to bloom in pots may be at once put out in the borders.

Biennials.—If not already done, these may be planted out in beds, and where the places are at liberty any of them may be put out where they are to bloom.

Bulbs.—If you have any in the ground, no matter of what kind, that require taking up, they had better be lifted at once, dried thoroughly, cleaned, and put away in paperbags till wanted for planting again.

Campanula.—As the variety known as the Chimney Campanula is now growing fast in their blooming pots, secure the rising stems to proper supports, and, as they advance from day to day, administer plenty of water and keep the pots clear of weeds.

Carnations and Picotees.—Regulate the number of buds and tie up the advanced ones, as directed for Pinks, only when you have tied them you must tear down the calyx from the top to the tie, and thus release the petals all round alike; prepare the card also, and regulate the petals as they perfect themselves. The shoots at the bottom may be either layered, if they are long enough to bend down

under the soil, or pulled off and piped, like Pinks, if they are short, only they must be struck with a slight bottom heat under a hand-glass, instead of in the cold open ground. They are thus lavered: -Cut off the leaves, all but those on the three upper joints, about a third of an inch below the second knot or joint under those leaves, which would be three inches from the top, and on the bottom side of the stem cut a slit sloping upwards towards the middle of it, passing the knife through the joint, but carefully abstain from coming more than half-way through the stem; then as carefully cut off the piece that is below the joint, so as to cut close up to it. This done, stir up the soil in the pot. and mix some sand with it; peg this laver down into the soil below the surface, so that the plant will, with the split joint attached to it, be exactly upright, and the split will be open; press the earth gently about it, and so proceed with more; water, and lay them by to finish their bloom, and till these layers strike root. Any gardener will, for a trifle, show you how to do this, and it is simple enough to perform, though it requires practice. Hairpins make the best pegs.

Chrysanthemums.—These, though the most untidy of all flowers, can be grown dwarf by taking off cuttings now. Prepare a little bottom heat, take off the strongest tops three inches long, cut them close under a joint, take the leaves off one inch high, and let this inch be set into rich sandy soil in a pan or pot plunged into the heat, the glasses covered close over and wiped every day, and occasionally refresh with water. With good management they will soon strike, when they should be potted off into forty-eight-sized pots; and after a few days, to establish them in the shade, they should be placed in an open situation, where they will have all the sun, but where they cannot strike their roots into the ground. Here they must grow

until the middle of September, but ought never to be neglected. They will, many of them, flower at twelve inches high. The roots may be planted in the ground to grow for young stock, and flower, if they will, in the borders.

Climbing Plants.—Clematis, Honeysuckle, and others requiring support, should be frequently examined, and their new growth that is loose properly fastened as the shoots advance. Climbing Roses, too, want constant watching.

Cockscombs. — These not only require plenty of nourishment and heat, but will need reporting as soon as the roots reach the sides of the pots they are in. Liquid manure should be occasionally given when the pots are getting pretty full of roots; the heat must be kept up to sixty-five or seventy degrees, and the plants be placed close to the glass.

Dahlias.—Never trim off a single branch of this plant unless it is in the way of others; trim them out of each other's way, and take neighbouring buds off any branch that has a promising flower, on its opening, for show: a plant is as much distressed by the loss of the leaves and branches as it is benefited by the reduction of its flowers. The instant you observe a bloom that will not do for show, remove it; most of the early flowers should come off.

Evergreens.—These, and ornamental shrubs and trees, are now in full growth. Look well to the growing branches, and see that they are not going ahead too fast, and getting the plant out of shape; check any that are behaving in this manner, and stir the earth on the surface of the beds. Water the American plants copiously from the moment they are beginning to start, as they are frequently unable to complete their growth for want of ample refreshment. Andromedas, Arbutuses, Kalmias, Magnolias, Rhododendrons, and such-like shrubs, must be watered in dry weather the first season they are planted.

Geraniums.—These may be cut down and the cut-

tings put in, if you require young ones; a common border and a hand-glass is all that is necessary for the purpose.

Gladiolus.—Fasten the stems of these to appropriate supports, and supply them with an abundance of water.

Hollyhocks.—Examine the seedlings well, and set a mark against any that are better than we already possess; but throw away all secondary things. Nothing of a perennial nature should be tolerated as novelties unless they have real merit about them. The flowers should be very double, the petals very thick, the colour very new, and the spike very compact, to justify our keeping one to propagate. Any that have the above qualifications is a first-class flower.

Irises.—Those varieties that bloom from early spring to late in the summer should be regularly noticed, and especially the seedling English Iris, which now comprises so many splendid kinds; and such as are worth cultivation should be taken great care of, and their chief features noticed, or they should be numbered, and entries made in a book to that effect.

Lawns.—These should be moved once a fortnight, and the grass swept off directly, for if it lies an hour or two in hot weather it causes the turf beneath to turn yellow. Fork up the earth that is open round the specimen trees, shrubs, or plants on the lawn, and keep them clear of weeds.

Lilies.—The large orange, scarlet, and white Lilies in the borders must be well supported by stakes; and the Japan Lilies in pots should be kept in the shade, for their delicate blooms would soon suffer under a hot sun. The half-hardy Lilies of all kinds form beautiful objects in collection; they require a good drop of water while in pots.

Lupins.—Lupinus polyphyllus, and other perennial kinds of which you may have seedlings, should be planted out in nursery-beds, or where they are to stand for bloom, if not already done. In either case they should be well watered,

and, if the weather be very hot, shaded also. But if they be taken up carefully after watering the seed-bed, and planted out after the sun is down a little low, they will suffer a mere nothing.

Mimulus.—Seedlings must be kept clear of weeds at all times, or they will grow up spindly and half starved. If you have any worth propagating, you may increase them as fast as Verbenas; and planted all about the beds and borders they are most showy and dwarf. From a pinch of good seed you will have a hundred different varieties.

Pansies.—Continue to strike side-shoots and make new beds. Water well in dry weather, shade the individual blooms required to be preserved, and stir the soil between young plants. Plant out seedlings, and sow seed as fast as it ripens; but, if you have any regard for the quality of your seedlings, mark the best blooms only to save seed from, and sow as soon as you gather it. You can hardly sow it at a wrong season, because they will stand the winter, and it is a matter of total indifference whether they flower in spring, midsummer, or Michaelmas. There is no period of the year in which you may not strike the side-shoots, and they make the best plants.

Paths.—The principal enemies to paths are weeds and worms, and they must not be allowed to get ahead, or they will be exceedingly troublesome. The weeds must be hoed up or pulled up; for if the old remedy of salt and water be applied, it runs down to the side of the path, and kills grass or Box at once, if it be there. The worm-casts look ugly, and when swept off you are just as sure to find as many the next morning. Lime-water makes the path white for a while after drying, but it is the best thing you can use.

**Petunias.**—Cuttings may be struck under a hand-glass in the border, though a little bottom heat rather hastens the striking; but the present planting out will be sufficient for

the season, if you perform the operation at once. Seedlings may be planted out in beds, that they may be the more easily managed and marked when examined. Those first planted out want cutting back or removing.

Phlox Drummondii.—This, as well as the perennial kinds, may be shifted from small pots to larger, and all that are not required in pots may be turned out in the borders and beds. The former makes an interesting plant if well grown, and comes many different colours. Side cuttings, when young and struck, may be kept through the winter, and thus the annual be rendered almost a biennial.

Pinks.—Having reduced the stems to one, and the buds on that stem to two or three, the forwardest must be tied round the middle, to prevent it from bursting; worsted varn or bast-matting will do to tie with. Cards are then to be placed under the flower to hold up the guard petals, which should be laid down as they develop themselves, and form a circle outline as near as may be. The easiest mode of putting on the card is to make a circular mark in the middle of it, as large as a sixpence, and cut across it four or five times; by pressing the little finger upon it, the card gives way, and the angular points form so many springs to hold the bud in its place; the card is passed on by cutting it through from the edge to the hole, as thus formed in the The first row of large petals having been laid down, the next-sized petals should be brought down also as they bloom, laving one over each pair of the guard petals; so on with a third row, if there be one, and cover the petals of the second; the other must form a crown or high centre, and any that happen to be ragged or self-coloured, or in the way, must be pulled out. They must have no sun, nor rain to wet the flowers when they once open; oiled paper caps held above the flower with a stick are mostly used. When the first flowers are perfect, the work of propagation must be done by piping; that is, the sprigs round the bottom of the stem are taken off two inches long, the lower leaves stripped off, and planted in rich earth—water it till it is like mud—handglasses covered over them, and shaded from the midday sun.

Planting.—A dull day should always be chosen for planting out seedlings, if possible; the beds for the same should not be more than four feet wide, otherwise you will not be able to reach to the centre conveniently, without putting your foot on it. When they are very small, spread half an inch of sifted stuff on the surface, or many of them will perish on account of the roughness of the soil, which will prevent the roots from being pressed solid. As soon as they have got good hold, by rooting down into the coarser stuff, you may stir the soil and mix the fine with the coarse by forking it, because the fine stuff runs too close together when the rain comes plentifully, and this is very prejudicial to plants. If you are unable to select dull weather, plant as soon as the sun has gone low, and water well, and shade during the heat of the day until the plants have got good hold of the ground.

Polyanthuses.—Such as are not already parted should be divided at once. By rights they should have been seen to last month, but they may yet make good plants in good ground, with the help of a good autumn. Seedlings not planted should be got out directly.

**Primroses.**—These should be served the same, if not done before, but there is yet time to recover a good plant. We mentioned this in May.

Ranunculuses.—These should not only be kept clear of weeds and well watered, but it will be necessary also to shade the remaining flowers. If the leaves turn yellowish by the end of the month, take them up, put them in the shade to dry, and when dry clean them and put them by in very light canvas or gauze bags. Name and number all the

sorts, and keep them separate; should they get mixed they are perfectly valueless except as border flowers.

Rhododendrons.—These must be kept well watered, otherwise they will decline in health and strength. Seedlings may, and indeed should, be planted out at once. Beds of small plants will require watering in dry weather, and all plants in pots should be placed in the shade and their moisture carefully attended to.

Seed-Vessels.—The directions given last month should be as carefully followed out this; and, while speaking on the subject of seed, it will be as well to remind our amateur readers that the sooner seeds are sown after gathering the better; and we will explain to them why. One and all will allow that nothing exhibits more healthy growth than a self-sown seedling; and if it be so, how can we do better than sow directly the seed is ripe and gathered?

Tulips.—Such bulbs as were not taken up last month must be lifted at once, dried, and put away till next season. As soon as you have removed them, level the bed and bring your Carnations and Pinks, if you have any, under the canvas. They may either occupy the space of the bed if raised above the path, or, if the bed be even with the ground, they may be placed all round.

Vermin.—We have, we should think, scarcely any need to remind our readers that slugs, snails, earwigs, thrips, grubs, caterpillars, worms, and, indeed, every kind of insect, should be searched for and destroyed as soon as caught; but knowing that such work is too frequently overlooked, we think a gentle reminder positively essential; we therefore take the present opportunity of impressing upon amateurs the necessity of looking daily for the depredators, and, when found, using the various remedies given throughout this calendar for their temporary suspension or total destruction, which is still better.

### AUGUST.

Annuals.—If any remain to be turned out, either from seed-beds or from pots, no time should be lost in transferring them to the borders. Those in the ground that have been sown too thickly, or have not as yet been thinned sufficiently, should be reduced at once to give the remainder room. Those removed during the process may be transplanted elsewhere.

Auriculas.—Cover from too much wet and heat, but give all the air you can. Pot all those that require shifting into pots a size larger, or so reduce the roots as to go into a new pot the same size; but if you find the roots do not reach the sides of the pots they are in, they are better in the same another season. The best compost for them is one-half rotted turf from a loamy soil and one-half well-rotted cowdung, with a little silver sand to make it porous.

Balsams.—These require shifting into pots a size larger, and to have their blooms picked off all the while you require them to increase much in size; but when you want to encourage the bloom they may be left in their pots. Those who desire to grow them very large must give plenty of pot room, plenty of heat, plenty of water, and plenty of light; occasionally picking off the young buds. Others who want moderate-sized plants to flower early, may leave the plants to themselves as soon as they are in thirty-two-sized pots.

Biennials.—All that are large enough should be planted out in beds or where they are to bloom. Among the principal may be mentioned Canterbury Bells, Carnations, Picotees, Polyanthuses, seedling Pinks, Sweet Williams, and Wallflowers.

Carnations and Picotees.—Any not layered must be seen to as soon as possible, and those which are layered

will require watering and carefully attending to till rooted. Those in pots that have done blooming and have had their shoots layered may be turned out of doors, so that they may have all the weather. See that they are neither devoured nor damaged by slugs and snails.

Chrysanthemums.—Take particular notice that the young plants which are out in the open ground do not root through the pot into the earth; shift them into other pots as the old ones get filled with roots. Pot off the struck cuttings of last month in sixty-sized pots, and place them in the open ground as soon as they are established; and when the pots are filled with roots, shift them successively to forty-eights and thirty-twos. The plants that were lopped, or pinched back, last month for cuttings will have become bushy, but they must be well attended to and shifted; for although they will be later, they will make fine plants if taken care of.

Climbing Plants.—These must be neatly and securely tied or nailed to their supports as they advance in growth, otherwise they will be broken by the wind or damaged by the weather. It should be remembered that when they have good growth upon them, they are very apt to weigh down and disturb some of the fastenings, especially Clematis and Honeysuckles, which form large hanging heads, and soon become a confused mass unless watched and fastened as they grow.

Cockseombs.—The treatment recommended last month may be continued this. By this time the flower, which was not larger than a button when the plants were starvelings six inches high, will have increased as much as the plant; for the flower seems to have the same power of growth as the plant itself, and ramifies (that is, spreads out and separates) as much.

Dahlias.—Those who grow for exhibition must watch

all the opening buds, and the instant they find that a flower will not do they should take it off. Every flower that opens weakens the plant, and therefore those who are careless of everything but success, and sacrifice the appearance of the garden to the shows, should not allow one to remain on the plant after it is found useless. The hunting for vermin and destroying them must not be relaxed, for a single earwig would destroy a bloom. Those who imagine the covering with a flower-pot on a flat tile will be an effectual protection to the flower against earwigs, must see that the pot is perfectly level on the edges; not one in twenty is so. But at some of the potteries they make pots for the purpose, with no bottom, but a groove to hold a round glass or a round tile, according to whether a dark or light cover is wanted. Continue to take shoots off any that you require to increase: but remember that the hotter the weather the hotter must be your striking frame, for the bottom heat ought to be as the top, just to promote striking, and this is the great cause of difficulty in striking late cuttings. Seedlings are beginning to flower; now, therefore, is your time to examine them, and the instant you see that a plant will be useless, dig it up, or, if your time is short, chop it down. The great evil to guard against is suffering yourself to be tempted to leave a doubtful flower; for, if you once do this, you will find a quantity of things about you just too bad to be worth growing, and the desire of selecting a few will make you bestow time and trouble that nothing will repay. flower is not better than anything we have already, or tolerably good, with an entirely new colour, reject it at once; it is infinitely better to see the ground clear than cumbered with only ordinary flowers. It is necessary to lay down a rule to begin with, and to persevere with it, and that rule should be to destroy everything that is not decidedly new and good. If you find any really desirable flower, set to work at once

to take cuttings and propagate it, because the sooner you have a stock the better. Take the side-shoots as soon as they are long enough, and as it is necessary to induce these lateral shoots, it is well to stop one or more of the branches by pinching off the ends. Take off about two joints of the cuttings you intend to strike, put them singly in pots, and plunge the pots in the hot-bed to the rim. Keep the glass pretty close until they have struck, watering, however, freely, and keeping up the heat, but shading from the midday sun.

Geraniums.—Those in the beds and borders should have cuttings taken, that may be struck and grown slowly through the winter for bedding out in spring; and any of the old planted-out ones that are worth saving should be taken up and potted, to go into frames or the greenhouse for the winter. Those struck now should have their tops pinched off directly they have struck root and begin to grow, because they ought to be stocky and short. must have but little water during the winter, and be covered up, if in frames, to keep out the frost, for the garden depends much on a supply of these plants in the spring. If any of those in the greenhouse (cut down last month) have been kept rather dry and exposed to the sun, they will now have broken out a supply of young shoots. As soon as these can be distinguished, commence regulating the shape of the plants by thinning such as come in inconvenient places, or are too much crowded together, in order to give the others more air and light. As soon as they are well broken, the plants may have their roots reduced and be repotted into smaller pots, after which they should be placed in a cold frame.

Hollyhocks.—Seedlings are now either in bloom or coming into flower, and you must therefore examine them. All you have occasion to discard must be cut down at once,

and the others left. Mark with labels such as are worth keeping, and let the labels refer to a book in which you enter all the remarks you have made on the flowers, particularly a good description of the points for which you value them.

Lupins.—Only the perennial kinds are worth notice at this time. All the seedlings that have not as yet been planted out should be at once placed in nursery beds and borders, according to where they are intended to bloom the next year.

Mimulus.—In beds these always look brilliant; and if kept well cut back, and the old stuff that has done blooming cut out of them from time to time, they will continue to flower until frost cuts them off altogether. There is nothing more grand while in bloom; and although, if neglected, it will go out of flower for a time, it will continue to grow and bloom as long as you will cut out the portions that have done flowering.

Paths.—Narrow paths are always a nuisance in gardens, for several reasons: they are unsociable to company, destructive to the edgings, ugly to the eye, and have but one solitary excuse, which is a mercenary one—the ground is scarce, and therefore people persuade themselves they cannot spare so much. Nobody can, we think, admit the excuse, because if there is to be no comfort in a garden, why have a garden at all? Where they are intended to walk on, three feet is the least space that can possibly be tolerated for one person to walk at a time; but five feet is required for two, otherwise the ladies' dresses sweep over whatever edging there is, and hurt the flowers nearest the borders.

Perennials.—If these are planted out from their seedbeds early this month, they will get sufficiently established to stand the winter; but if the work is driven off too late, and bad weather ensues directly, they will for the most part receive a check that no after care can rectify. Seedlings, if very choice, should be potted in plain loam, without dung, and kept in frames; but all hardy perennials, such as Antirrhinums, Columbines, Phloxes, Polyanthuses, Sweet Williams, and many others, do well in the open ground in nursery beds four feet wide, if planted six inches from each other. These must be watered when planted, and afterwards kept clear of weeds.

Phloxes. — The perennial varieties require support because they are mostly tall, and tall slight-growing border plants of most kinds require the same. They should be supported loosely as they rise for bloom, because, if fastened tightly, they cannot push up, but bend, and even break, with a few days' growth.

Phlox Drummondii.—While these are in bloom the cultivator should take the opportunity of selecting the best colours for seed, provided the flowers are well shaped also, not otherwise. Now, as this flower is inclined to be good in form, it would be folly to save seed from a second-rate variety. As we observed last month, these may be struck in heat under glass, and, though only an annual, may be thus converted, as it were, into a biennial, because it lives through the winter.

Pinks and Pansies.—Make beds with the rooted pipings of the former, if you have not already done so, and recollect that a pink is nothing unless it grows in rich ground. The effect of poor soil is loss of size, colour, and character. A laced pink looses its lacing, the colour is spoiled, and it is so small that it would not be known in many cases. Look over new beds already made, and see that none of the plants are disturbed. If they have been moved by worms or other causes, press the earth close about them. Continue to take side-shoots of the latter, if you can find them, and propagate for new beds. When you care to

keep up a lengthened succession of blooming sorts, you should obtain side-shoots, and strike them whenever they present themselves. When you cannot obtain side-shoots, give the preference to small shoots instead of large ones; but there is nothing that makes a better plant than the side-shoot that comes up from the bottom. A new bed may be made every month through the summer, if it be desirable, and those that are too late for autumn bloom will be ready for the spring.

Tulips.—Throw the soil out of the beds intended for this flower as soon as they are at liberty, and let it lay in high ridges on each side of the beds, to be chopped over and sweetened during the period between this and November, the month for planting the best bed, as well as the open ones; and let there be a very sharp look out for wireworm, grub, and other vermin. Examine the bulbs in the boxes, and begin making such alterations in the arrangement as you propose. Whenever you have half an hour to spare, as it is generally too long a job to be managed all at once, lay out all the very small offsets, to be planted early in October, or even directly, if they are at all in danger of drying up and shrivelling.

#### SEPTEMBER.

Annuals.—The hardy kinds which shed their seed in profusion, and produce plants which stand the winter well, have induced many to make this month a season for sowing all kinds, and if they are well up and established before the winter sets in, many will stand well, and form a double season with those sown in spring.

Auriculas.—Examine these carefully for the purpose of

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Auriculas.—Examine these carefully for the purpose of

picking off all dead leaves, cleaning out the frames, and arranging the pots for the winter. They may have all the air that can be given by taking the lights partially or entirely off on all dry days. They must, however, be shut down in heavy rains, because we must begin now to be sparing of water—not to let them get quite dry, but not to give them any water while they are at all moist. The less water they have, so they but keep alive, the better, until they begin to grow again. Seedlings must be examined, as well as offsets, and all that are crowded and large enough to pot singly should be placed in small pots, one in each. Seedlings that have been pricked out many in a pot may be repotted, half the number in a pot of a moderate size.

Biennials and Perennials.—Any of the former may be planted out if hardy, or potted off if tender. All the latter that have done flowering may be parted, and planted out in nursery beds. A great number of herbaceous plants come under this definition. Where any have grown into patches too large for the place, they especially require attention. In a word, the patches may be removed altogether and parted, to be replanted; or, if you desire to retain a patch, chop some off wherever it can be spared, or all round it, and leave only as much as you require.

Bulbs.—This month may be said to be the beginning of bulb planting for early bloom; and all the soft kinds, such as Crown Imperials, Lilies, etc., must be but a short time out of the ground.

Calceolarias.—These are propagated by offsets and cuttings. The former should now be taken from the plants and potted; the latter, as soon as struck, may be removed from the store-pan and potted off singly in sixty-sized pots.

Carnations and Picotees.—As fast as the layers of these plants get well rooted, they must be cut off the parent plants, and be potted in clean loam, without dung; and if

the loam you have be too stiff, mix two-thirds of it with onethird peat, if you have it good; and if not, in place of it put as much sand as will open the pores a little, for the less excitement these plants have during the winter months the These should be two in a pot of the size fortyeight, and when watered, to close the earth about their roots, they should be placed in a frame on a very dry bottom. The best way to ascertain whether the layers have struck is to scrape the earth away from the upper part of the stem of the layer, and draw up the peg. If the layer is pretty firm in the soil, it is rooted, and should be cut off the old plant as near the main stem as may be, because whatever is useless can be cut off afterwards. Having severed the layer from the plant, thrust a trowel or a wooden spud into the soil, so as to raise the earth and roots together without breaking the tender fibres; then, with a sharp knife, cut off all the stem below the part rooted, and pot them near the sides of the pot, opposite each other. Let each pot contain a pair of the same sort. On no account pot two different varieties in the same pot, for it leads to occasional mistakes. The closer the stem below the roots is cut off to the joint next the root the better, for there is less chance of rotting.

Dahlias.—Where necessary, place extra stakes to support the growing branches, for the height of the bloom may be considered to last until the frost catches them. The growth of the branches, however, renders them too heavy to be supported by the single stake, and therefore two or three, or even more, are sometimes necessary to save the heavy side branches from the effects of the wind. Towards the end of the month you must expect frost, and be prepared for it; and it is desirable to earth up the stems and roots a few inches all round, that the crown may be protected in the event of a frost coming, because, if at all injured, the root may be lost by rot during the winter, or the stem may

rot round the crown and destroy the eyes. Earthing up is an effectual protection. We need not repeat the directions given last month as to the general management. The cuttings that are striking, or have struck, must be kept growing in heat until tubers are fairly formed, when they may be gradually cooled and have no more water. They may be then placed in the greenhouse, to dry and die down; but this must not be done until there is a fair tuber formed. When perfectly dry, the pots may be piled up in the dry part of the greenhouse on their sides, or placed anywhere out of the danger of frost, heat, and wet; but many of these will not be ready till next month, or perhaps November.

Flower Beds.—About the end of the present month gardens look deplorable if there has been a sharp frost, and, under the circumstances, there must be something done to make them decent. By a very simple contrivance a wonderful improvement may be made in their appearance in a very short time. There is nothing more easily managed than dwarf evergreens in pots; they may be potted very small, and kept in a common bed in the young state, and shifted from time to time as they grow older. Of the dwarf plants best suited to the purpose we are about to use them for, we may mention Andromeda, Arbor vitæ, Berberis aquifolia, Rose, Holly, Kalmia, Laurustinus, Red Cedar, Rhododendron, and Yew. We are now supposed to be looking upon those borders and flower beds which a short time ago were the admiration of all who saw them, but are now made desolate by frost. Well, this is the remedy:--First cut down everything that is past its beauty; then rake off all the decayed leaves, stems, and flowers, so that the bed or border may be at least clean; afterwards bring forth your dwarf shrubs, and place them about where there is room for them, looking well to the diversification of the various kinds, and providing for the best effect. Now. having made up your mind where they will look best, plunge the pots into the ground, covering the rims that they may not be seen, and regulating the surface of the ground as you proceed, that the border may look highly finished, and the garden complete, although not so full of flowers. This winter-dressing is very appropriate for geometrical gardens, but in that case the shrubs should all be planted uniformly. This method of renovating a dilapidated garden is worth attention, as in adopting it there is ample room for the display of taste.

Geraniums.—The directions given for last month equally apply to this, where you have been, from unforeseen circumstances, unable to carry out the advice at the time. There is nothing like being early with propagation and potting up, but at the same time cuttings struck, or plants taken up from the beds and borders now, and potted, will fare as well as those so treated a month ago.

Lilies, etc.—All soft scaly bulbs, such as Crown Imperials, Lilies, and so forth, may now be removed carefully, for they will not bear to remain out of the ground long enough to dry, as they begin to get weaker. It is an early time for bulbs in general, but those planted, or merely removed from one place to another pretty quickly, take no harm. The scaly bulbs are imported in sand, or placed in sand immediately on their arrival, and if now procured should be planted forthwith.

Pansies.—These may still be planted in beds, and potted in sixty-sized pots, to be kept in frames all the winter. The cuttings of such as we are anxious to propagate may be struck, but they should be put in pans to be covered with hand-glasses, and placed on a little bottom heat, because the alternations of sun and frost would endanger them if exposed to the weather; besides, the bottom heat facilitates the striking. The potted plants must be put in the cold

frame or pit, near the glass, and, when the pots fill with roots, shifted to larger. These may, in the course of the winter, be forward enough to occupy sixteen-sized pots, and bring early bloom in the spring as fine as in the open ground.

Roses.—Look well after suckers from the roots, and side branches from the stocks, of all the standards and worked varieties; examine them strictly, that no growth of the stock may escape notice. As the heads are heavy, and the wind has great power, look well to the fastenings and the soundness of the stakes, that they may be sufficient to get through the winter; if the branches have grown very long, it will be as well to shorten them.

Seedlings.—Plants of this description, no matter of what kind, not yet disposed of, may be planted out if hardy, and potted off if tender.

**Stocks.**—If you are desirous of, and particular in, saving seed, continue to remove every bit of growth, except the swelling of the first few pods that set.

Tender Plants.—All the kinds of plants in beds and borders that will not stand the winter out of doors, and are required to be preserved, should be taken up and potted, and headed in, to be kept through the winter under cover; the cuttings taken off may be struck for next year's stock. Fuchsias require a good deal of cutting down; Verbenas want cutting in. You can hardly have too large a stock of all bedding-out plants, so that you should make all the plants you can of the cuttings. All the plants that can be spared should be left where they are untouched, because they will continue to give flowers till the frost cuts them off, and that may be protracted for three months to come, though it is not safe to leave any that are wanted after the middle of this month.

Tulips.—Examine those in the boxes at your leisure,

that you may correct all that are wrong; refer to your book in which you have made your remarks on the bloom of last year; take out the condemned bulbs, and replace them with others better adapted for their places. Let the bed—if not already done—be dug out by the middle of the month, and the stuff be turned over a few times, to sweeten it, unless you are preparing new; the bed ought to be turned out two feet six inches deep, and with three feet of good soil it will be six inches above the ordinary surface. New loam from rotten turves is the best possible soil for the Tulip; it is the same as two-thirds plain loam and one-third of leaf mould.

Violets.—If you have any that you are desirous of forcing, you may with safety pot them up for that purpose, any time during the present month.

## OCTOBER.

Alpines.—Any of these plants in pots should be plunged in a bed of sand or coal ashes, to protect their roots from severe frosts. The situation chosen for them should be moderately sheltered, and where they can be covered up to protect them from heavy rains; but, except in very severe weather, they require little other shelter, and this is best afforded by a covering of such open material as dried fern or pea-haulm, which does not impede the free circulation of air, while it protects them sufficiently from excessive frost.

Alterations.—Any contemplated improvements should now be commenced in dry weather, and if there be rain come on, so as to make the ground clammy, work it no longer, for you will do more harm than good. Form your paths, clumps, or borders with a line and pegs, or, if you design any particular shape that is not to be marked out by geometrical rules, lay a line along the ground about the form you want, and adjust it by pegging it inside and outside, according as you want to send it one way or the other. Dig the clumps two spits deep; when, if you find the bottom good, turn it to the top; if bad, merely loosen it and leave it at the bottom. If you are going to lay out a garden, begin by digging, trenching, and levelling before you mark a road or path, and then form these by laying a line down on one side, and adjusting it to the exact sweep you require. If you intend the edging or verge to be turf, lay down the turf carefully, with the best edge to the path side, that the line may be kept perfect; then, with the help of a rod the length that is intended for the width of your road or path, lay the turf on the other side, so that the smooth line is kept, and the width preserved uniform all Next form the shape of your clumps, by first putting down pegs nearly to your mind, and then laving down turves with the best edge inwards, so as to mark the exact form you require. These being marked out, all the surface has to be covered close with turves, or, if on too large a scale for that, levelled with the verges already down. and sown with grass seeds, and rolled all over. The general planting must be left till November, for choice, because many evergreens have not completed their growth; and in fine weather planting is good from now until February, or even March, though much better in November than any month in the year.

Anemones.—These are planted at two different seasons—October or November, and February or March. The coarser sorts are planted in autumn, and the more delicate are inserted in the spring. They thrive best in loam from rotted turves, which, of course, contain nearly one-third of

vegetable mould. The loam, however, should be clean and friable, of the sort usually found in good rich pastures. The tubers should be planted from two inches and a half to three inches deep, and the earth pressed solidly upon them. Very strong tubers should be nine inches apart every way, in beds not more than four feet wide, that they may be reached; therefore, five rows will go well in a bed. These must be protected during frosts, if double, but the single kinds may take their chance.

Annuals.—The tender kinds have no business in the open ground, except those which, if the weather has been mild, will be still blooming; such as the last sowings of Asters, Balsams, Indian Pinks, Marigolds, and Stocks. The hardy sorts may be sown now. Whether they come up and stand the whole winter, or in two or three months hence, they will precede the spring-sown ones a month or more. But it is not every annual called hardy that is hardy; nor will every one called tender be found so. If flower-borders are left and not disturbed, it will be found that many of the seeds dropped from the plants will germinate, and that the plants will be so much stronger than those sown by hand; some, however, are so short a time coming into bloom, that they would be too forward to stand the winter.

Balsams.—Gathering the seed is almost the only thing left to do with these plants, because they have passed their beauty; and if the seed be not wanted, they may be turned out of the pots, beds, or borders, as soon as their bloom falls.

Beds and Borders.—Clear off all decayed plants, cut down the stems of flowering plants that have done blooming, remove weeds wherever they appear, and leave everything clean and tidy, that they may require little else until the herbaceous plants and bulbs appear above ground in the spring.

Biennials and Perennials.—The former may be planted where they are to remain, but the borders should be loosened and the clumps well forked, to clean them and to get them ready to receive the plants. Any of the latter not parted last month may be divided now. Seedlings also, if not planted out before, may be got in now. Most of the subjects want a foot of room.

Carnations and Picotees.—These ought to be all potted off, and in their winter frames; they must not have much water, but in dry weather let the glasses be taken off, and the plants have all the air. Of course, any that are not potted off should be attended to directly; and if you have more than you can pot off, plant them in beds a foot apart every way, and choose a high and dry part of the garden, as they are easily destroyed by damp.

Chrysanthemums.—The potted plants should be now taken into the house, or placed in pits, if they are not already secured. If the blooms show, or rather the buds, and the plants are in the least cramped for pot room, you may shift them into pots one size larger, because they will not grow much higher, and the new life which will be imparted to them will be thrown into the size of the blooms; but if the buds do not show, continue them in the same pots. They should have all the air that can be given on mild days. The plants in the open border may require support, especially if they have not been shortened; one stake and a band of bass matting will be sufficient, placing the stake at the back.

Climbing Plants. — Clematis, Honeysuckle, Pyrus japonica, Roses, and other plants used to cover arbours, fronts of houses, walls, etc., should now be regulated, all the waste and straggling growth cut back, and the loose branches intended to be saved nailed in their proper places. The fastenings of the main branches should be looked to,

and, if weak, removed for stronger ones, for the winter weather tries the strength very much.

Crocuses.—This month you may commence planting out these early flowering bulbs. The old-fashioned way was to plant them all along the edges singly; but they are more effective in patches of half a dozen, and much further apart. A patch of yellow, then one of blue, then one of white, and so on, are more effective, too, than mixing them, besides the stock being kept more valuable. Plant them two inches deep, and six inches from the edge; otherwise their green leaves will grow over and destroy any edging you may have.

Grown Imperials.—These are soft and scaly bulbs, which ought to be planted as soon as possible after they are taken up; so that imported bulbs should be planted immediately. These should be planted three feet from the edge, for they run up two feet high, and form a handsome, bushy plant. There are various shades of yellow, and some nearly white; they may be planted three inches below the surface, and should be left in the ground two or three seasons without taking up.

Guttings.—If not already done, slips may be taken of such plants as Cupheas, Gazanias, Jacobæas, Verbenas, etc., and planted in store pots filled with a light open compost, and then covered with an inch of silver sand, into which insert the cuttings. The pots should then be placed in a frame or pit where there is a slight bottom heat. They must not be too much crowded, nor at any time kept too damp, or they will rot before they root. These cuttings, when rooted, are to be hardened off gradually to the temperature of a greenhouse, in which they may stand on a light airy shelf until spring. Cuttings put in earlier will have to be potted separately in small sixties, to remain through the winter.

Dahlias.—These have now done their work, so far as shows are concerned; and when their flowers are not wanted they may be lifted, so as to take no more nourishment from the ground, but must be covered with earth for a few days, lest the frost should reach them.

Deciduous Flowering Shrubs.—These should now be removed, and planted where they are required on the borders, in the clumps, or on the lawn; such, for instance, as the various kinds of Almond, Cherry (double flowering), Guelder Rose, Horse Chestnut (scarlet and yellow), Lilac (Persian, Siberian, and common), Peach, Thorn, and all other ornamental deciduous flowering trees and shrubs. Prune them at the roots, to remove all damaged portions, and lessen the shrubs in head to a reasonable form, because they are often of straggling growth until brought into form in these places. Dig the holes large enough to allow of the roots being spread out, tread them firmly in the ground, and take care that they are put no lower in the soil than they were when last growing; the collar of the root should be even with the surface.

Half-hardy Plants. — Those which you desire to preserve through the winter, such as Scarlet Geraniums, Fuchsias, some of the dwarf Lobelias, Calceolarias, and any other subjects of this class, if the weather has permitted them to remain out all this time, should be taken up at once and put into pots as small as their roots can be coiled into, a few of the straggling branches removed, and the plants set into a frame, which should be kept rather close for a few days, until they have partially recovered. They should have a thorough watering after being potted, and daily sprinklings afterwards for a fortnight at least, or longer if they do not get established. After they begin to grow they must have air, gradually increased till they are exposed in the same degree as ordinary greenhouse or frame plants.

Hollyhocks.—These may be cut down to within six inches of the ground; and remove all stakes for the winter. If any are to be parted for propagation, shake the earth out of the root, and carefully cut it into as many pieces as are required, taking care that there is a good heart to each piece of root; let these be planted in a store bed, a foot apart, to grow into strength.

Iris.—This extensive family comprises tuberous and bulbous rooted plants—the former with sword-like foliage; the latter various, some almost like rushes, others like grass. The tuberous-rooted may be parted to increase them this month; the bulbous may be planted. The English varieties of the bulbous-rooted Iris are far more beautiful than the original species. When you part the tuberous-rooted, you have to retain one or more eyes or shoots to each piece of tuber, according to the size you require the plants or the numbers you want to make; plant them from nine inches to a foot apart every way.

Lilies.—The orange, white, and Martagon varieties may be removed from one place to another, and if they are to remain a year or two, one good bulb in a place will be sufficient.

Narcissus.—This is a large and varied family, all interesting and beautiful, and should be planted in patches of three (three inches deep), all of a kind; for it is a bad plan to mix the colours and sorts—first, on account of the deterioration of the stock; second, because they are not so rich in appearance. Those in pots should have the same treatment as Hyacinths; that is to say, keep them out of the light and heat. They want no forcing, but merely plunging the pots anywhere in the shade until they are needed elsewhere.

**Phloxes.**—Those out of bloom may be parted; any late ones that have not begun to die down may remain till they

do so; but, for effect, they are better in good-sized patches or clumps, and especially the tall ones. As the foliage turns colour on the blooming stems, cut the stems down close, without interfering with the small shoots at the bottom. Seedlings should be planted out this month, if not already done. They can be removed at any time; but it is better to allow seedlings to bloom altogether, for the convenience of examining them as they come out, and rejecting the faulty ones.

Pinks and Pansies.—Beds for the former may still be made with advantage, but it is even better to do it in September; the plants get a firmer hold in the ground, and resist the frosts and changes better. Pinks in store pots must be kept pretty dry, and must stand on dry bottoms in the frames and pits. Any of the latter that have struck and are not yet planted out should be disposed of directly, either in store beds or at the proper distances for blooming, or in small pots singly, to be ready for turning out in the spring or changing to larger pots. Potted plants designed for blooming early and under cover should be shifted to larger pots as they fill the small ones with roots, if room is scarce, or placed at once in their blooming pots, if you have space to house them.

Polyanthuses and Primroses.—These suffer more from damp than anything. The ground must be cleared of dead leaves, bits of straw, and the ordinary accumulations of autumn; all the discoloured and dead leaves removed, and the soil smoothed under their foliage. This will also bring to light any lurking slug or snail, for there is no plant that offers a more tempting harbour; and this should frequently be done. Those intended to be potted for the winter should be selected with single hearts, if possible, for they always throw up the strongest truss.

Snowdrops.—Both the double and single may be planted

in any situation where they can be seen well, for at the best they are but small objects, and would be lost in some places. They ought to be planted in patches of a dozen, not less than two inches deep.

Sweet Williams.—These, as well as Wallflowers, Canterbury Bells, and all the biennials and perennials that are required to bloom in certain places, should be removed now, unless the places are at present occupied by things not yet done with. The sooner all such plants are in their flowering places the better.

Tulips.—The early kinds are seldom grown in beds, but they would make a very dazzling appearance if well arranged for colour. About a dozen sorts would be sufficient; and in planting, there should be seven rows along the bed, so that each row across would contain seven. The rules to be observed are-first, to make the centre of each row the tallest (the others should be in pairs; the two next the centre should be alike, the two next but one should be alike, and the two outside ones alike); second, there should be no two together of the same colour: preserve contrast and uniformity all through the bed. Small offsets of the late sorts should be planted; they suffer by drying up, if kept out of the ground too long. All those of which there are plenty, all mixtures that do not require arrangement, and all that are to be grown in the ordinary beds may be got in at leisure; and the bulbs intended for the best bed should be examined in their boxes, and arranged or rearranged according to the notes in your last year's book. Those which bloom foul should be changed; and make other alterations as you determined on when they were in bloom. In arranging a bed, the three classes of flowers should be uniformly disposed in rows of seven—the same flowers in the first and seventh, or outside, the same in the second and sixth, and the same in the third and fifth. As the three classes-Rose,

Byblomen, and Bizarre—should read all down the centre, all down each of the seven long rows, and from the centre to the right or on the left, they come in that uniform way. Plant all the offsets and general stock in the common beds as soon as you please, and also all breeders.

# NOVEMBER.

Alterations.—Remember every day you protract any proposed alterations, or the making of additions, you run the risk of being foiled by the frost; for, when that once sets in, all work of any consequence is stopped until it has gone. Planting of deciduous trees and shrubs should be persevered in until it is all done. Evergreens may be planted out, but will take no harm for a while. All the trenching, digging, making roads and walks, and planting ornamental timber may go on with all reasonable speed, for one fine day lost is irrecoverable, especially if unfavourable weather should afterwards set in. Wet is as bad as frost, and often does more mischief.

Anemones.—These may be planted in beds or patches, three inches deep, and six in a small patch, to remain there, or six inches apart all over the bed or border; and let the earth be bruised well that covers them.

Auriculas.—Remove the dead and dying leaves, keep the frames clean inside, and give no more water than is necessary. Let them have all the air they can on mild, dry days, but when there is any fall of wet let the glasses be propped, so as to keep off the rain.

Borders and Beds.—As the flowers decay, do not allow of large gaps, but be provided with dwarf evergreens in pots, with which to dress them; and this is very desirable where masses of annuals have been flowered and have gone

off. Geometrical gardens in particular require attention. It is rarely worth while to take up either the Scarlet Geraniums or Verbenas unless we really want them saved. because they frequently continue blooming, in a mild autumn, till a very late period. But when they are either cut down or taken up, the space should be dressed for the winter, and potted plants of various evergreen shrubs ought to be provided. Yound Conifera are appropriate. Laurustinus are excellent, for they will flower all the winter. Dwarf, purposely stunted Pyrus japonica, which will give their coral flowers in some of the dreary months: Hollies. Box, Euonymus, and especially the variegated dwarf red and white Mezereon, and many other plants interesting in the winter and early spring, afford us opportunities of dressing out a winter garden as effectively, if not quite so brilliantly, as it is done in summer. The various subjects wanted to bloom in the borders next season should be planted now, because the less anything is removed in later months, or even in spring, the better.

Box Edgings.—The laying down of these may be seen to at once, in the manner described at page 8. Repairs may likewise be made where the old edgings have become patchy, or grown irregular, as the case may be.

Carnations and Picotees.—The health and vigour of these plants depend mainly upon their being kept dry and cool through the winter; not that they must absolutely want water and not have it, but that it should not be given them a day sooner than they need it. Pick off any yellow leaves, and keep the frame clear of weeds and dead leaves or decaying matter of any kind.

Chrysanthemums.—Any in bloom out-of-doors should have their dead and decaying blooms cut off at once, and the best ones be left to come forward still. In sheltered places, on walls, and frequently in the open gardens, this family of flowers forms a bright spot in the dreary autumn.

Climbers.—The hardy kinds may at once be pruned and trained. No general rule for pruning can be given, as the habit of each particular plant must determine the actual operation; but generally prune rather hard, especially in the case of all plants that blossom on the young or current season's growth. Hardy climbers are too often neglected in this respect, and become masses of confusion. If the plant produces its blossoms from the one-year-old wood, be careful to retain a supply of the best-ripened young shoots all overthe plant. In training, use small shreds and few nails; but the shreds must not tightly girt the shoots. The shreds. should be made of narrow strips of cloth, cut into lengths proper for the different sizes of the branches. The pruning of the less hardy sorts must be deferred until the spring.

**Crocuses.**—These and many other of the smaller bulbs, if not already planted, should be got out at once, according to the advice already given.

Evergreens and Deciduous Shrubs.—All the layers and suckers should be taken up and cut off, to be planted in nursery beds or elsewhere, according to your wants. Lay down any branches that are low enough, and can be spared; they only require to have a longish slit, cut not quite halfway through, on the under part of the branch. Bend this down into the ground, and peg it there an inch or two under the surface; they will form strong plants fit to take off the next autumn. All evergreen and deciduous shrubs will thus form new plants; many, however, throw up suckers—that is to say, branches from their roots—and if these are dug down to, and part of the root taken up with them, they make plants at once. Many seeds of deciduous plants may be now gathered, and cuttings of all kinds may be taken, though many think the spring quite as good. If there be any straggling branches of the shrubs that can be improved by shortening, do not be afraid of the knife, though care should be taken to spare those branches which show bloombuds until after the flowering time.

Hvacinths.—There is nothing more striking and beautiful than a well-arranged Hyacinth bed. The colours are various—light and dark blue, light and dark red, light and dark vellow, and white. Let the arrangement be so that you do not have two of a colour, nor even two of a shade, close together. Single and dwarf kinds make the best general bed, and those who have geometrical beds may so contrive them as to have flowers two months before the usual period by depending on bulbs. Hyacinths, in these beds, must be all of a shade in the same bed; but, if you want effect, you may have the lightest of the reds inwards, the darker ones further out, and the darkest on the very outside. The same with the blues; there are several shades. and they are admirably calculated for effect. These, planted in their beds nine inches apart, would leave room between for anything else to follow, and the Hyacinths might, on their removal, make room for the third succession of some For instance, Tulips may be planted between the Hyacinths, and the Hyacinths taken up while the Tulips are in flower may make room for potted Stocks, or potted Nemophila, or for plants of Verbena, which will flower by the time the Tulips are off, and so keep up the bloom of the parterre.

Pansies.—Those in beds are very apt to be disturbed by frosts and thaws; the changes expand the earth, and frequently bare the roots of small plants. To prevent this, you may be at the trouble of covering with mats or litter in frost, and keeping them uncovered in mild weather; but, unless they are very choice, few take the pains, as they are by no means a tender plant. But they must be set to rights at every thaw, and fixed firmly.

Pinks.—Such as are in beds frequently get disturbed by

worms, cats, frosts, and thaws; they must, therefore, be examined occasionally until they are very strongly rooted in the ground, and, where any are disturbed, they must be pressed into their places, with the earth close about them; and clear them of weeds while the same are small.

Ranunculuses.—These may be planted six inches apart in good earth, well worked, but not mixed with dung recently. A good layer of rotten cow-dung may be placed in the bed at a foot deep, but the earth in which the tubers are placed should be loam from rotted turves, or clean loam from a pasture one part, and leaf mould one part, which is about an equivalent; any well-worked earth from a kitchen garden will be well adapted. The easiest way to plant these autumn-made beds is to draw drills the length of the bed, three inches deep and six inches apart. then place in the tubers with a slight pressure, six inches apart in the rows. Others draw the drills across the bed six inches apart; but the easiest is lengthways, and it can make no difference unless people desire to grow a row of a sort, when it is better to cross the bed, because the sorts are seen distinctly when one sort crosses the bed. does not refer to the fine sorts, which are planted in February, but to the surplus stock required to increase well, and to give early flowers.

Rose Stocks.—These should be procured and planted ready for budding or grafting; plant them eighteen inches apart in the row, and the rows three feet asunder.

Roses.—As we are now liable to high winds, and the heads of standard Roses have grown large and heavy, it will be well to shorten all the long branches, and to cut away altogether all the weakly ones. The wind will then have much less power over them. Many tender Roses would be safer if protected; but it is so difficult, and withal so unsightly, that we prefer taking them up carefully, and

putting them in by the heels in an outhouse or a well-sheltered corner, where, in addition, we can throw a mat or litter over them during frost. This is a good month to plant Roses, if they have had a check by frost and dropped their leaves, or if their wood is ripe.

Roses, Climbing.—These must be well fastened, and a good deal of the loose and superfluous branches cut away, if not already done. Look well after the last month's directions, and attend to all that has not yet been done. Indeed, if the last month's affairs were well brought up, there would be little to do; but a good deal of planting is necessarily left for November, from the difficulty of getting all the plants that are required in October. Some are hardly ripe enough to move in October, others are in great demand; but the sooner they are procured and planted the better, when once the leaf falls, or the tree is inclined to rest.

Roses, Tender.—Where the tender sorts, such as the Chinas, Tea-scented, Bourbons, etc., have not been protected, it should be attended to before severe cold sets in. The roots should be mulched, and the branches shielded by some such open material as dried fern, pea-haulm, or litter. Rough wicker baskets are sometimes used for this purpose, and they answer well as a covering for the branches. They are set over the plant during the period when protection is necessary. One great advantage attending them is, that they are easily removed and replaced.

Routine.—Cleanliness at all periods is a paramount consideration. The leaves which fall should be swept up and preserved as valuable manure. All the waste of the garden should be thrown together and allowed to rot for the same purpose, and whatever you have of the kind already decayed should be esteemed as the finest dressing you can apply. Hoeing between seedlings, weeding, clearing paths, digging vacant spaces, and leaving them in the rough until

wanted for bulbs and so forth, are self-evident duties; so also is the destruction of all kinds of vermin.

Shrubberies.—Where digging is practised the work may be performed now; but it should only be done in mixed borders, where flowers are planted. The continued digging of the soil destroys the surface roots, greatly to the detriment of the plants. Clumps entirely occupied by shrubs should show no cut edge of raw earth; if they are on grass, the grass should grow quite under them, and if they are surrounded by gravel, this should be continued beneath their branches.

Tulips.—Plant your best bed about the middle of the month, in the following manner:—Level the surface, mark out your lines, and lay the bulbs in their places, pressing them into the ground far enough to hold them upright. When the bed is all planted, sift or shake on three inches of mould above the tops of the Tulips on the sides, and four inches on the middle. To guide you in this, stick up some pieces of wood the height the soil ought to reach in different parts of the bed. Seed may be sown in pans, and protected from heavy showers that would wash them out. They must be covered but lightly, for the seed shuck rises on the top of the young plants, and, if deep, might rot. Those who sow in spring do not cover at all, except with wet moss to keep them from drying.

Turf.—This may be laid to form lawns or verges while the weather continues mild. It cannot be done in frosty weather, neither should the roots (which are towards the outside of the turf, as they are rolled up for removal) be exposed to frost, nor too long to drying winds.

#### DECEMBER.

Annuals.—Those that were sown in the autumn for early flowering in the spring, or such as have sprung up self-sown in the beds or borders, where they can be retained in patches for the sake of their earliness, are the better for some degree of protection in very severe weather. With all such plants it is, moreover, very important to attend to thinning in due time, so that the plants may grow sturdy and strong, and not be drawn up spindly and weak from being overcrowded, which renders them much more susceptible of frost than when they make their growth after being properly thinned. This thinning is required as early in the autumn as the plants become at all thick on the ground, so that they may have the advantage of exposure to all the sun and light which are at that season available. is these patches, thus thinned out, that we recommend to be protected: and the best means of sheltering them is to stick into the ground about them small pieces of such open spray as spruce-fir branches, or the fronds of the common bracken, cut in summer and dried in readiness: two or three of these pieces, a foot or so in height, placed about a patch of annuals afford a great amount of protection, and if not put too close about them, keep off the light but very little, and do not at all obstruct the circulation of air. ground about such tender subjects should be frequently hoed in winter, this being done in intervals of dry weather. It helps to keep the soil open and porous about the plants. so that they are less affected by the rains. Wet, it should be remembered, is the chief enemy of the autumn-sown annuals, a great many of which will keep in good health during winter, if they can be kept moderately dry.

Annuals in Pots.—Those who are anxious for an early spring display of blossoms generally take some pains to preserve a few autumn-sown annuals in pots, either sowing for the purpose, or taking up from the borders some of those which are self-sown. They should be planted two, three, or more, in a sixty-sized pot, and the pots should be placed in a frame. It is important at this season to be very cautious in the application of water; the soil must be thoroughly wetted when they require it, but no water should be spilled on the leaves, nor poured carelessly among the pots. All rain should be excluded by keeping the glass sashes over the plants, tilting them up at the back so as to admit air, and at the same time assist to throw off the water. which is impeded when, as is sometimes the case, the lights are tilted back and front alternately, for the sake of producing a draught of air; it is better during rain to tilt only at the back. In all dry weather such plants must be quite Keep them as dry as possible, short of permitting them to flag, and as airy as you can consistent with dryness.

Auriculas.—In any dry weather, short of frost, give all the air you can by taking the lights off, but be quite certain about the temperature, because, although the plants will stand a good hard frost without any apparent injury, the bloom will get checked by a slight one if not provided against.

Carnations and Picotees.—Those in pots under glass must be kept moderately dry—we speak of those in store pots. In mild, dry weather, they should have all the air that can be given them, by taking off the glasses altogether. All dead leaves should be taken off, the surface occasionally stirred, and the greatest care taken that no snails or slugs harbour among the pots, and that the bottom of the pits and frames be dry.

**Dahlias.**—Examine the tubers occasionally, and if there be any very scarce one which is likely to be wanted in great quantity, pot it at once; also pot any that seem inclined to shrivel or rot, and keep them in the greenhouse or pit free from frost.

Fuchsias.—These should be kept in a nearly dry and dormant state, and in any cool place where they will not get much frost. A shed, or loft, or cellar will do, provided these conditions are complied with; they are even not very impatient of frost—not too severe—if they are nearly dry at the root. Cut them close into a stem, or close down to the soil, before they begin to grow, though the old plants are better destroyed (if not reserved for planting out) as soon as cuttings can be got in spring.

Geraniums.—These may be checked as soon as there are two good joints to a shoot; this, however, is to depend upon the form intended for the plant. Whenever the growth has extended as far as it is required in any direction, the ends may be pinched out. Cuttings that have been potted off, and filled their pots with roots, should be shifted to others of a larger size, and due regard be paid to the shape they are growing, with a view to restrain them within proper bounds.

Gravel Walks.—When the gravel is soft and spongy, get two sieves—one that will not let a horse-bean through, and the other somewhat larger. Gravel thus cleared of the large and the small stones should be laid on, and rolled in every time the wet comes, until the surface is as sound as a rock.

**Hyacinths.**—If you did not see to the planting of these last month, you must do so at once in precisely the same manner as then directed.

Pinks and Pansies.—Both of these may have precisely the same treatment as that advised for Picotees and

Carnations. We are speaking more particularly of those in store-pots, under glass. Those in larger blooming pots should be put in frames by themselves, that they may be kept growing, as the object is the preservation of early blooms, and they must not have a check.

### CHAPTER II.

# THE FRUIT GARDEN.

# JANUARY.

Almonds.—The sweet kind grow and ripen well enough if all the weak shoots are cut away, and the inner branches are thinned out; and this is the best time of year to do it.

Apples.—These feel the benefit of the above kind of pruning as much as any fruit that we grow on standards. The reason why the fruit on espaliers grow so much finer than on standards is because the same aged tree has but half the number of branches to support, and less than half the number of fruit to nourish. The latter must be treated like Pears, of which we shall have something to say shortly.

Apricots.—Although it is full early for pruning these, where there is much to do, there is nothing like commencing in time; set about it, therefore, this month, for as the Apricot is the earliest, so it should be first done. To prune and train these properly, it is essential that the operator should understand for why he does it, and what he needs. First, he wants the branches to cover the wall regularly, without crowding; second, as the fruit comes mostly on the ripened branches of last year's growth, a few of the best of these only should be retained for nailing in; third, as one-

year-old wood is preferable to the more aged branches, the latter should be cut away, where necessary, to make room for the former. This being the case, remove all such shoots as grow straight out from the wall, unless actually wanted to cover bare places. Such of last summer's shoots as were nailed in temporarily while growing, should be unfastened, and some of the old wood also if necessary, to be afterwards properly laid in, cutting away such as we cannot find room for. One or two of the best shoots on each of the last year's bearing branches will, as a rule, be enough to leave on a tree.

Arrears.—Enthusiastic gardeners seldom or never omit anything calculated to benefit their plants; but, as "a wise man aims at nothing out of his reach," it is very possible that something may have occurred to stop certain operations for a time; in which case our advice is, delay that which is to be done no longer; on the contrary, hasten its completion.

Berberis.—Although this shrub does best when permitted to grow wild, there is no harm in thinning out the centre a trifle; but the operator must avoid getting pricked by the thorns, which are poisonous.

Cherries.—Standard trees should have all the useless branches in the centre of the head removed, so as to afford light and air to the remainder. Those on walls may have the same treatment, as regards training and pruning, as that advised for Apricots, with the exception that the majority of the branches may be laid in pretty close all over the wall.

Chestnuts.—Thin out the heads of these, for the purpose of promoting early growth, and thus give the fruit a better chance of ripening, which they seldom do to perfection in this country when left to grow unmolested.

Currants and Gooseberries.—Both these may be pruned at once; that is to say, all lateral shoots should be

cut off pretty close to the main branches, that they may be left perfectly bare, as it were, without even shortening them. Except you find it necessary to leave a side-shoot or two, for the purpose of filling up a gap, all laterals, as we have already remarked, should be removed.

Figs.—See to the pruning of these trees, if you are really desirous of performing the operation at once; otherwise we decidedly advise the postponement of such work till next month. If, however, you do contemplate carrying out the work immediately, you should cut away sparingly, as they do not like the knife much. Leave a sufficient number of last summer's shoots from the bottom of the extremity of the tree in all parts where possible, and prune out the ill-placed and superfluous ones, and a portion of the aged bearers and long extended, naked old wood only, so that in training you may have plenty of fruitful wood at your disposal.

Filberts.—These are capable of being trained as standards, grown as large shrubs, or kept down like bushes. In either case we have only to thin out the inner branches, that light and air can circulate freely through those that are left.

Medlars.—These merely require thinning out a bit, so that the sun and air may circulate amongst the branches, which naturally grow so dense that, but for such treatment, they could never penetrate through the surface.

Mulberries.—Young trees must be prevented from becoming too thickly wooded, or the sun will not be able to reach the berries so as to ripen them properly. These trees are mostly trained as standards, but they may, if preferred, be trained on the wall; in which case the branches should be laid in as close as possible, allowing all the foreright, or outward growing, shoots, except the longest (which must be cut back), to remain. This tree should not be pruned or

nailed close, like the Apricot or Peach; on the contrary, the main branches only should be secured, on account of the principal fruit being on the outward growing shoots.

Nectarines and Peaches.—These are so much like Apricots in habit, that the treatment recommended for that fruit will do for them. The Peach, however, grows somewhat more vigorously, and as a rule makes longer shoots; but, as we have said before, the guide for the cultivation of the one will do for that of the others. It is good practice to shorten those shoots on which the blossom-buds are very low down, but where they abound nearer to and quite up to the top, as they invariably do, every bud that is removed with the knife will prove a loss; for, let the tree be ever so crowded, we can always, when necessary, reduce the crop of fruit to a reasonable number.

Pears.—Very little difference need be observed in the training of these on a wall or espalier than any other tree, but as the fruit is produced on the short spurs of the old wood, healthy growth, sufficient to cover the space allotted to them, at regular intervals, is the first thing to make sure To ensure this, it will be necessary, in the summer months, to cut back all the young wood that is not required, close to the heel, and thus encourage the branches destined to form the tree. Fan-shape is the form usually adapted for either wall or trellis, and to achieve this it is necessary to cut the tree back until there are a sufficient number of The side-shoots should be six branches to form the fan. inches apart at two feet from the trunk; these increasing to à greater distance at the ends of long branches. of all it will be essential to select the first good strong shoot beyond the two feet, to form a branch between the two; and when we get two feet further on, we may choose another of equal strength, so that by this means we may fill the wall at proper distances as far as we wish the tree to extend.

Bearing in mind at planting, or at any time after planting, what is required, the pruning must be in accordance therewith.

Planting.—This work should not be deferred any longer than the end of this month; therefore make every preparation for getting it out of hand. Trees intended either for walls, espaliers, or to be grown as standards, may one and all be got in, provided the weather is favourable. For walls the best sorts are-Apricots, Peaches, Nectarines, Plums, Pears, Vines, Figs, Cherries, and Quinces; for standards, Apples, Pears, Plums, and Cherries, with smaller quantities of Ouinces, Medlars, Mulberries, and Filberts: for espaliers, Apples, Pears, Plums, Cherries, and Ouinces. Where the soil is of a loamy nature there will be no necessity to use dung at the time of planting, as it is easy enough to supply nourishment whenever requisite; but too rampant a growth is not at any time desirable; therefore do without stimulants at the onset, at all events. The following rules should be carefully attended to:—In taking up the tree, preserve all the fibres you can; remove the damaged ends. of the root; cut in the head in proportion to the injuries the root has received; plant the tree no deeper than the collar of the root; and, by way of securing it against damage from high winds, etc., fasten it securely to the wall, or to a stout stake, as the case may be.

Plums.—As these bear principally on the young wood in the same way that Apricots do, they should be pruned in a similar manner when on a wall or trellis; but standards merely require thinning out, to give light and air and throw additional strength into the bearing branches.

Quinces.—The directions given for the pruning of Plums equally apply to these, and as such is the case there will be no necessity to repeat the advice.

Raspberries.—You may now make fresh plantations of

these, observing to procure young stools that are furnished each with several strong canes or shoots of last summer's growth, which may be obtained in plenty from old plantations, as they always send up an abundance of young growth. Preference should be had, as a rule, for those with good fibrous roots, while such as have naked and woody ones ought to be rejected. Make it a practice to prune off the weak tops of these canes, as well as the long straggling fibres of their roots, and plant them in trenches made with a spade, in rows four feet and a half asunder, and two or three feet apart in each row. This distance may appear considerable at first, but they should never be planted closer, as the advantage of it will be seen in two years' time; for when planted too close they will, in the summer season, form a perfect thicket, the result of which will be that the fruit will turn out not only small, but very inferior in flavour, to say nothing of the difficulty that will be experienced in the gathering of them, from want of space to move about.

Strawberries.—Nothing is more simple than the cultivation of these, although it is not every one who knows how to set about the work. This month is the last for making beds with the slightest hope of a good crop; indeed, if the planting was done in August or September, it would be infinitely better. The plants should be put out eighteen inches apart in the rows, and three rows together the same distance from each other; but if you have six rows or more. every third vacancy should be two feet wide. Provided the soil be good and strong, you will have berries as fine, and as rich in flavour, as those who go to a far greater expense in their cultivation. On a warmly situated border the fruit will come earlier; but for this purpose you must procure strong plants, insert them firmly in the ground, water them in very dry weather, and leave nature to do the rest. soon as the fruit begins to swell, put clean straw between the rows to prevent the fruit from becoming gritty in rainy weather.

Vines.—These may be trained and pruned any time during this month, or even later, provided the weather will permit. When about to undertake work of this kind, bear in mind that, as the strong new shoots of last summer are the only bearing wood, such branches and shoots should be trained very carefully from about ten to twelve inches apart, either horizontally or perpendicularly, according as the space of wall will allow; and therefore, in the pruning, carefully leave a requisite supply of last year's shoots, so that every part may be adequately furnished with them.

## FEBRUARY.

Alterations.—If you intend making any alterations in this department, now is the time to do it. In a word, begin the year as you mean to go on, by making every improvement in your power, not only for appearance' sake, but with a view to benefiting whatever you contemplate cultivating; for, remember, "Whatever is worth doing, is worth doing well,"

Arrears.—Provided you have cleared up all arrears, such work as pruning, nailing, and planting—of which we shall have occasion to speak presently—is the chief thing to be done this month; but if, from unforeseen causes, you have been unable to follow our advice as closely as you should have done, why then there is but one remedy open to you, namely, to lose no time in making up for delay; and since, as we have already stated, the present time is favourable for the work, we would strongly impress upon our readers the necessity of getting it done immediately.

**Currants.**—These are propagated by seeds, suckers, or cuttings. The first should by rights be sown as soon as ripe, when they will come up in the spring following. as it is a far easier—that is to say, a more expeditious method to increase your stock either by cuttings or suckers. we would recommend you to put in as many of the eligible shoots made in pruning as you are likely to want; and as pruning should be completed at once, now is the time to think of propagating also. Black Current bushes are not fond of the knife; therefore only the weak and spindly shoots ought to be cut off, clean to the base, and the strong ones left, because the fruit comes on the last year's wood: but the bush must not be allowed to get choked or crowded. With regard to suckers, all you will have to do is to ascertain from what part of the bush they spring, and, having detached them with a knife, plant them out in rows six inches apart, and the same distance asunder in the rows.

Gooseberries.—The directions given for the above stand good with regard to these; therefore it is unnecessary to enlarge upon the subject.

Grafting.—The end of this month is a good time tobegin this work; and as it is easy to get a piece of any good Pear or Apple, Plum, Cherry, Peach or Apricot, Nectarine, or other fruit, you may cut down any other less valuable tree of the kind. All you have to do is to cut both the stock and the graft to fit each other; tie them well tosecure them, and put clay or grafting wax (see page 124) overthem to keep the air out. There are a great many methods of joining the two, but where the tree to graft on and the piece to be grafted on it are the same size, the operation is much about the same as splicing a broken stick.

Planting.—In performing this operation, always make the hole deeper and larger than required to admit the root, and throw the loosened soil back in part, so that the tree-

will stand on soft ground. Set the tree in the hole higher than it is to be, because it will be trodden deeper in, and sink, and for this you must allow; the surface ought to just cover the collar, and no more. If you are planting new wall-fruit trees, choose one year old from the working, or at most two: cut back all the branches to three eyes, and of course three shoots will come for each one removed, so that the wall will be rapidly furnished. Some buy trained trees. and want fruit directly. In this case, the roots must not lose a fibre, and must not be exposed an hour to the air. Besides this, we should cut back every alternate branch to three eyes, and have the others only shortened back to wellripened wood. The only difference observed in planting a standard fruit tree would be, that it must be fastened to a stake instead of the wall; the holes to be made twenty or thirty feet apart in the open ground for standards, and from fifteen to twenty for the wall. The stem should be six or eight inches from the wall at the crown of the root, and slope to the wall. With regard to supporting the standards. three stakes a foot off, on three sides, and to cross at the top where the stem is to be tied, will be found the most Raspberry canes, Gooseberry and Currant bushes. and Filberts must be planted by the same rules, and with -equal care. Planting espaliers is similar to planting wall trees: the only difference between them is that the former is nailed to a wall, and the latter tied to a trellis, but pruned and trained flat, and never suffered to grow outwards.

Pruning.—Work of this description should be forwarded as quickly as possible, the chief object being to get the operation over before the trees have made any considerable advance in the blooming line. While the wall trees demand attention, it should be remembered that standards may be improved greatly by equal care, although they are generally left to themselves, rarely being visited

from the time of gathering the crop until the next year's fruit is ready to pick. We have frequently regretted this neglect, because it leads to uncertain and irregular crops—very heavy one year; very light, or perhaps none at all, the next. There are certain rules, founded on known principles, that every gardener ought to observe; first, when the head of a fruit tree is crowded with crossing branches and a forest of weak shoots, it shuts out sun and air from the interior, which never bears, and the growth of such useless wood takes from the fruit that nourishment which should swell it; second, that the thinning of the fruit on any trees causes the remainder to be finer.

Strawberries.—Plantations should now be cleared and have their spring dressing. First, pull or cut off any remaining strings or runners from the plants, and clear the beds of weeds or litter of every sort; then either hoe, dig, or otherwise loosen the ground between them. This will tend to strengthen them, cause a plentiful display of bloom, and consequently an abundant crop of good-sized fruit. This is also a very good time for making new beds, which, if loamy in texture, will suit them admirably, provided a liberal allowance of well-rotted stable-dung be added.

# MARCH.

**Espaliers and Wall Trees.**—Examine these carefully to see that the fastenings are all sound, and make good where there has been an omission, or a failure afterwards.

Fruit Borders.—See to the digging of such as have not yet been operated upon. This kind of attention will be found not only of service to the trees, but will tend to destroy weeds at the same time. Then, again, it will produce

a neatness and order at all times acceptable to the eye, as well as prepare the soil for the reception of vegetable crops of small growth. Hoe and loosen the surface of such of these borders as were dug some time back, and were not sown with any close crops, such as Radishes, Spinach, Lettuce, and so forth.

Fruit Trees.—Planting these is anything but desirable this month: it ought to have been all done long ago: but. as it will sometimes happen that a man takes possession of his garden too late for proper management, he must then do as he can, instead of as he would. All that can be advised is to take up the trees with the greatest care, without losing a fibre of the root, if it can be avoided: then, in making the hole to receive it, take plenty of room, and loosen the bottom well; fill up in part the hole you have dug, so that the tree will stand with the collar of the root above the level of the soil, spread the roots out very carefully, and throw on the well-bruised earth; begin treading it in all round the extreme edge of the hole, so that the fibres all round at the points of the root may be pressed solid, then tread it all round a little further in towards the tree, but tread last near the trunk, and when finished the place where the roots start from should be just below the surface.

Newly Grafted Trees.—These ought to be looked over frequently just now, for the purpose of ascertaining whether the clay keeps close about the graft, it being very apt to crack and sometimes fall off. When you find it at all defective—that is to say, sufficiently so to admit the air and wet to the graft—let the old clay be taken off at once, and add some new in its stead. All those shoots which rise from the stock below the graft must be rubbed off constantly as they are produced; for if these are permitted to remain, they would only rob the graft of nourishment, and thus frustrate the object in view.

Newly Planted Trees.—These should be well secured from the violence of the wind; that is to say, if they are tall standards, in exposed situations, let them be supported with stakes; and if wall trees, with largish heads, or espaliers, fasten their main branches securely.

Pruning.—Where this was not completed last month, complete the work at once, according to the rules laid down in January, not only for wall-fruit trees, but for standards likewise. In short, we hardly know how to add anything in addition to those directions, because, as we then recommended the commencement of pruning, we were necessarily forced to give our notions of how it was to be done. Pears, Plums, Cherries, Apples, and all other trees against walls, and espaliers or standards, may be operated upon at once.

Raspberries, Gooseberries, and Currants.—Fork between these for the double purpose of destroying weeds and loosening the soil, so that air may get to the roots; but if this be inconvenient, stirring the surface pretty deeply with the hoe will answer very nearly the same purpose.

Strawberries.—Top-dress beds of these with a good thick coat of well-rotted stable-dung, which must be carefully forked in to reach the fibres; but in doing so you should take care not to damage them. If this has already been done, so much the better; still it is not too late, and the spring showers will wash it down to the roots, and strengthen the plants; avoid tearing the fibres in forking.

Vines.—These may still be propagated by cuttings, where a supply of new plants is required; they may also be increased by layers, where you prefer that method. For this purpose the one or two year old shoots are the proper parts to lay, inserting them four inches deep in the earth, with that part of the branch the shoots proceed from (leaving about three buds of the young growth) out of the ground.

They will have made good root by Michaelmas, when they may be separated from the old plant, and put out either in a nursery bed for a year or two, or where they are finally to remain. Those against walls should be examined as they put forth spring shoots, at which time it will be necessary to displace all useless ones.

#### APRIT.

Apricots.—You should pay particular attention to these just now, by thinning the young fruit where in clusters, and searching for and destroying caterpillars before they have an opportunity of devouring the young foliage. They may be easily discovered by their webs, and then all you have to do is to destroy them.

Cleanliness.—Examine the walls frequently to make sure they are perfectly clean, and the trees also, for the same purpose. Nothing harbours more vermin than dirt and dead leaves in the corners or forks, which catch them as they fall, and retain them (unless removed continually) till they are rotted. Currant bushes, especially, are subject to this, and they not unfrequently retain them, with all the eggs that may have accumulated during the autumn. Let the forks where branches spring from, and which are mostly full of the remains of leaves, be thoroughly brushed or washed out. The garden-engine will do this effectually, provided water be directed down upon them with considerable force; in any case, however, they must be properly cleared of such filth.

Currants and Gooseberries.—Complete the pruning of these bushes, in case you have omitted to finish the operation earlier. As they sometimes suffer greatly from the caterpillar, which mostly attacks them soon after they are

in leaf, it is essential to look after such vermin, and destroy them as soon as observed. They must be either picked or brushed off, or, which is still better, washed off with the garden-engine. After any of these means are used, the ground under the trees will sometimes be found literally covered with the half-dead pests, when your best plan will be to rake them away and destroy them at once.

Disbudding.—This is an operation that needs particular attention just now, inasmuch as it tends to prevent the development of useless shoots at the expense of such as should be preserved. Therefore, this being the case, it is far from advisable to wait until a badly placed shoot is full grown; on the contrary, remove it early, taking off with the finger and thumb foreright buds, and others that are not properly placed for laying in. Our advice, however, is that a few buds only be removed at one time; in other words, perform the operation sparingly, but often and carefully.

Espalier Trees.—These must be daily examined, for the purpose of ascertaining whether they are infested with insects of any kind; and where they are, use the remedies suggested under the head of vermin, instantly, for their destruction.

Figs.—Now is the time to regulate these trees; but, in doing so, take especial care to leave the shoots sufficiently thin in all parts of the same.

Grafted Trees.—These should be looked over every now and then, for the purpose of removing all shoots below the scion, or suckers that may spring from the root.

Grafting.—This may be proceeded with, if you have any subjects that require operating upon, as the sooner the work is brought to a close now the better.

Mulching.—Such trees as have been recently planted will require a good mulching, taking care to spread the rotten dung, old tan, or whatever other short litter you may

employ, on the ground over the roots, especially where exposed to the sun, to prevent evaporation from the soil.

Newly Planted Trees.—Any young dwarf Apple, Pear, Cherry, or Plum trees, lately planted against walls, or espaliers, or in rows in the nursery, with their first shoots of only a year or two old entire, should now be pruned back to a few eyes, that they may be induced to throw out some good shoots near the ground, to furnish the bottom of the wall or espalier therewith.

Protection from Frost.—As soon as Apricot, Peach, and Nectarine trees are in bloom, the choicer kinds should be defended from frost, should it again make its appearance, by covering them with netting or mats. When the weather is mild, however, these coverings should be removed, as it is only in frosts and cutting frosty winds that the blossoms require to be thus protected.

Raspberries.—See that the canes are securely fastened to their stakes, or rather make sure that none have broken loose through being too slightly tied; for when the plants grow the wind has great command over them.

Standard Trees.—Tall ones that have been recently planted will need supporting by means of stout stakes and strong ties. Likewise remove all shoots and suckers appearing below the head as soon as you observe them, and keep the beds or borders in which they are growing perfectly clear of weeds, and the soil open and porous.

Strawberries.—These, no matter whether in beds or borders, must be well weeded and thoroughly cleaned; after which straw or litter should be put on the ground between the rows. This straw or litter will not only prevent the fruit from becoming gritty, but, if saturated a few times with lime-water, will have the effect of keeping slugs, snails, and worms at bay, if it does not destroy them. In the event of your not being able to procure litter or straw, you

must well saturate the ground with lime-water. Take off all the runners that spring from fruiting plants, unless you absolutely want young ones, when the runners are of more consequence than the fruit. In this case they should be pegged down at the joints, to make roots; or, having filled a sufficient number of pots with mould, peg the strongest joints to the surface of the soil in the pots—one in each—where they will root quickly, and may then be detached from the parent plants. As soon as these fill their pots with roots, they may have a shift into pots a size larger, and be afterwards treated as advised for forcing.

Vermin.—If, upon examination, you observe any of your trees infested with blight, caterpillars, or grubs of any sort, apply the syringe or garden-engine at once, provided the bloom is not too forward, but not otherwise. If the bloom is open, the operation is difficult, if not dangerous, and had better be left alone; but you may resort to another remedy, namely, light a fire with all the dry rubbish you can collect, on the windward side of the tree or trees, so that the smoke may blow among the branches, and it will destroy every insect it touches.

Vines.—If you wish for young plants, these may be layered; that is, take any branch which can be spared, cut a slit in it three inches long (between two eyes), bend the part under ground, and with a hooked peg secure it in its place; then drive a stake in to fasten the upper part to. It will strike root by October. Rub off all the young shoots of the Vine where they are not wanted; but this will, in late seasons, belong to next month's work.

Wall Trees.—Most of these will require pruning, and nailing in regularly afterwards. Protection will also be necessary just previous to their blossoming, or rather before their blossoms open, but it must be borne in mind that the covering should always be removed in fine weather.

#### MAY.

Apricots.—See to the trimming or pruning of these, and, having removed all weakly and objectionable shoots, nail in the young wood with care and regularity. Give plenty of room, for growing shoots must not be confined. It is at this season that the operator can do most with his trees. His business should be to cover his walls, and to accomplish this he should encourage all the growth he can find near the naked spaces. Directions for proper treatment are given under the head of "Wall Trees" for this month, page 102.

Currants.—Examine these bushes for caterpillars or their eggs, both of which will be found on the leaves. Directions have already been given for their destruction. They may be picked off by hand. Remove all suckers and useless shoots, and having done so, clear away the rubbish, and fork the intervening ground over lightly. Many pay but little attention to these till the gathering time. If there is a crop, all well and good; if not, they merely grumble at the failure, dismiss the thing from their mind, and there is an end of it till pruning time comes round. Now these bushes should be examined, and deprived of every inward shoot, whether there be fruit on it or not, so that you leave sufficient to make a fair crop.

**Disbudding.**—Continue to disbud wall trees of every description, and where you find any of them infested with green fly, lose no time in syringing them well with tobacco-water and soap-suds; if not very bad, with the former only.

Figs.—Top the shoots of these trees, and cut out weak ones. In a word, as soon as the former are six inches long

or thereabouts, pinch out the leading bud, so as to cause the side buds to progress in growth and strength. It will likewise be necessary to give these trees a good supply of water in hot weather, about their roots, and quite as essential to keep the border in which they grow free from weeds.

Gooseberries.—The directions given for Currant trees equally apply to bushes, and there is, therefore, no necessity for repeating the advice.

Newly Budded Trees.—These should likewise be examined, and have any growth of the stock rubbed off as fast as it makes its appearance; and when they have properly united, the bast or worsted, used in tying, should be loosened or taken away altogether.

Newly Grafted Trees.—These should be carefully examined, and have any growth of the stock removed. Clay should be taken from the grafts as soon as they are in a fit state for its removal.

Newly Planted Trees.—These, and especially young ones, should, in dry hot weather, be well watered at the roots about once a week, and occasionally all over the branches, both to clear them of dust and dirt, and to keep them free from vermin. We allude to those planted any time since November, which cannot have established themselves yet.

Raspberries.—As these always throw up many more shoots (or canes, as they are technically termed) than are necessary, it will be advisable to remove at least one-third of the number, taking care to select the weakest for cutting down; at the utmost, three or four should be left.

Strawberries.—These plants will be in full blossom this month; therefore, if the weather should prove very dry, the beds ought to be often watered, to encourage the fruit

to set freely and abundantly. During the present time, these plants should have the runners trimmed in close, so as to stimulate the flowers and fruit more effectually; but observe, at the same time, that when a supply of young plants is required for new plantations, it will be necessary to leave a proper quantity of the best for that purpose, so that at the right moment they may be transplanted. Snails often make great havoc among the fruit when ripe, and it will be necessary to look out for and destroy any you may find. All runners that you intend to appropriate for stock should be pegged down where they will have plenty of room to root and grow; and in a short time they will be ready for use.

Vermin.—Slugs and snails are very mischievous, and if not exterminated before the fruit gets very forward, they will soon become masters of the position, and select the best for their own use. The best decoy for this class of marauders is a half-roasted cabbage leaf, which will entice them from a distance off; and next to this, a raw one. Now, as it is not always convenient to half-cook them, you can at least lay a quantity of fresh leaves about the fruit borders, which, if searched every morning early, will be found to have attracted dozens, for they congregate under these leaves by wholesale, where they may be picked up and destroyed.

Vines.—These must now have every useless shoot removed, for the Vine requires none but fruit-bearing branches, and such as are needed for next season's growth. Stop every shoot that has fruit, one joint beyond the last bunch, for there will often be three bunches on a branch. Very few cultivators permit more than a couple of bunches on a branch to swell, and one would be better, where the Vine is pretty well supplied with them in every part. However, you will be better able to see by-and-by which of the branches are the most handsome, and remove the others.

after which cut the shoots back to the one joint from the fruit, as already directed. With regard to the branches that do not bear this year, select only such as will be useful to fill up the wall, or that are unusually strong; in other words, you may leave a weak branch in preference to none at all, as by so doing it will sometimes enable you to remove old wood, which is always desirable when it can be accomplished with safety. A great deal depends, however, upon the system you start with: that is to say, if the wall or house be covered. and you are growing on the spur system, you want no rods; but if upon the rod system, you will require a shoot for every place to be filled. As an instance, supposing the Vine be laid horizontally left and right, or even on one side only. there will be a branch shoot out every foot; but as these are not all wanted, rub off every other bud, so that the branches will be two feet apart. These, if well ripened, will bear fruit next year, and should be the only ones left on the Vine. The year following, many shoots will make their appearance between the base of one rod and the base of the next; from these shoots it will be necessary to select the strongest to form a rod this year to bear next season, and rub off all the others, without so much as allowing one of them to have even a start. As the rod progresses in growth. it should be nailed up between the bearing ones, and when the bearing ones have ripened or got rid of their fruit, they should be cut down close to the horizontal main branch. the spur system you must fill the spaces as well as you are able with strong wood, cutting back the growth of the year to one or two eyes, but on this principle also you must rub off everything but the bearing shoots. by-the-by, should not be allowed too close together, as nothing retards the grape worse than having too heavy a crop to mature, independently of the delay as regards ripening.

Wall Trees.—As the young wood in Apricots, Cherries, Peaches, Plums, and Nectarines has made some advance. you must examine the trees minutely; and where you find any shoots in wrong places, which are sometimes overlooked in the hurry of rubbing off the useless buds, remove them at once: also any that grow out from the wall, and such as are in places sufficiently well filled. The proper time for doing this was when they could be easily rubbed off; but upon the principle of "better late than never," any overlooked at that time may be got rid of now. Young branches that are coming where they are required, should be carefully laid in, and slightly tacked where they ought to grow, allowing ample room; for growing shoots must on no account be too much confined. More can be done now with these trees than in any other month in the year; therefore, a true lover of the garden will look carefully to their form and value. His business will, or ought to be, to cover his walls, and to do it he must encourage all the growth he can muster near the naked spaces, and check it where it is not wanted. This tends to increase the vigour of the branches permitted to grow. But it sometimes happens that a strong branch is growing where three or four weak ones would do better; in this case the best thing he can do is to cut back the strong one to four or five eyes, which will then produce as many branches of more moderate pretensions, and answer the purpose he desires, that of furnishing or filling the naked portion of the wall. It will, however, be necessary to remember that this year's young wood is to be the bearing wood of the next, and as such it will be necessary to so regulate the quantity that the tree will be quite capable of ripening it thoroughly, and that there will be no difficulty in laying it all in without overcrowding; but should you have to remove any, get rid of the old wood in preference to young. Espalier trees, such as Apples, Pears. etc., should likewise be looked over for the same purpose, and when necessary be treated in the same manner, for the espalier, after all, is nothing more nor less than an open wall; but as Apples and Pears bear upon the old wood for years, and there is mostly a large quantity of young wood, you have merely to retain the best whenever you need them for filling up the trellis, and to cut all the others away to a close knob.

#### JUNE.

Apples and Pears.—These, whether espaliers or standards, are always the better for thinning, and, in fact; require it quite as much as wall trees, for they have no business to be burthened with a host of weakly and useless shoots. A tree with a heavy crop, as it is termed, should be lightened of one-half, and then the other half would be much finer and the tree in a better condition to throw strong wood for the next season. The good strong shoots on espaliers should be trained in precisely the same manner as if they were on a wall; for, with the exception of growing on a frame or trellis instead of bricks, it is flat training after all.

**Budding.**—Apricots, Peaches, and Plums should be at once seen to for this purpose, provided you have not as yet operated upon them.

Currants and Gooseberries.— These bushes must have their centre shoots removed for the purpose of keeping them nice and open. The next thing of the greatest importance with regard to these is to keep them free from the caterpillar; to accomplish which no remedy has been more

effectual, nor so economical in the long run, as having them picked off by hand, before they have got too far ahead. A syringe will do a good deal, particularly one the size of an engine, with small and large holes in the rose of it according as it is required; but, although it dislodges many, it is far from a cure, in comparison with hand-picking. The bonfire method has already been described.

**Disbudding.**—Look to the disbudding of wall trees; and where the removal of "foreright" shoots has been neglected, have them removed, by first of all nipping off the ends, and in a week's time cutting them right back to the old wood.

Figs.—Thin out and regulate their shoots, and give them plenty of moisture at their roots in dry weather.

Mectarines and Peaches.—The observations respecting moisture will equally apply to these. Thin the fruit, and nail in the young shoots at once; but you must remember, when performing this work, that it will be necessary to leave as little wood as possible, so that at the winter pruning there will be next to nothing to do in the shape of cutting back. Any vigorous gross-growing shoots should be removed as soon as observed, for where they are suffered to remain no end of mischief is done to the trees in the shape of loss of sap.

**Newly Grafted Trees.**—These, as well as newly budded ones, should be carefully examined, and any growth of the stock removed. The grafts that have taken may have the clay removed, if not already done, as it is no longer required.

Plums and Apricots.—Either, or both, of these require the completion of their summer arrangements. It is also necessary to remove whatever useless shoots were left on last month, and nail all the useful ones in, for there must be no more allowed to grow than is positively of

service. Let this be done neatly, and without overcrowding the wood.

Raspberries—(See May)—should be looked over for the purpose of making all fastenings good; for, when fully grown, they weigh very heavily on their supports, and, unless well secured, soon break away.

Strawberries.—Clean straw, tiles, slates, or short grass should be laid between the rows of these plants, for the purpose of preventing evaporation and protecting the fruit from being splashed with dirt by heavy rains. The plants must be plentifully supplied with moisture in dry weather, until such time as the fruit begins to colour, when it must be discontinued. If you want plants, peg down the strongest runners into the ground, first forking it up a little; or, which is better still, into small pots of soil brought for the purpose, and take all other runners away. If you do not require plants, pull off all the runners as fast as they appear; for their removal encourages the fruit, prevents confusion in the rows, and gives more facility for gathering.

Vines.—However well these on walls were managed last month, they still require attention to keep them in order. In a word, all the wood not needed for next year's bearing should be taken away at once, the fruit-bearing shoots stopped at the first or second joint past the bunch, and the bearing branches so shortened afterwards nailed securely to the wall. The wood growing for the next season should also be secured to the wall to prevent its being blown about by the wind. All tendrils must be pinched off, and guard against the crowding of the branches. To accomplish all this properly, it will be necessary to go over them regularly once a week, breaking off all the barren laterals; and where there are two or three bunches on a shoot, which is not an uncommon occurrence, consider whether it would not be better to take away one of them, and should you

decide it to be so, remove it at once. By allowing the vine to mature too much fruit, the entire crop is thrown later, the grapes are smaller, and the chances are against their ripening properly.

Wall Trees.—Thinning the fruit on all trees of this description is the chief thing to be attended to this month. You will find in most instances, upon a close examination. much of the fruit is still too close together; hence the necessity for reducing it. When performing the operation, leave only a reasonable quantity to ripen; first, for the sake of the tree, which ought not to be worked too hard; and, secondly, for the benefit of the fruit, which will be all the finer for being lessened in number. We would impress upon our readers the necessity of being guided by the situation of the fruit, for it is of as much consequence to have them equally divided regularly over the tree, as it is to reduce their numbers; in fact, they ought not to be nearer than four inches apart, even where they are thickest. Let all fruit on the wall be gone over in this manner, even Bigarreau and Morello cherries, as well as other early ones; for nothing should be allowed to grow too thickly. By moderating the quantity of fruit each season, we may nearly always depend on an average crop; but by allowing an excess, the tree suffers, and, as a natural result, the following year's supply is materially reduced. Cherries require as much care as any other fruit, with respect to the removal of all useless wood and the proper disposal of a sufficient quantity of the stronger shoots for laving in all over the space allotted to them, and there is no reason why they should not have it.

### JULY.

Apples and Pears.—Espalier trees should be frequently examined just now, and such branches as were not removed at the proper time, and are still useless, should be immediately cut away. The crop, too, should be judiciously thinned, if the tree is too heavily laden, for should it be allowed to carry the whole of the fruit throughout the season, both flavour and size will be anything but first-class. The branches to be retained must be securely and neatly fastened in their respective places; in short, they should have precisely the same treatment as wall trees, with the exception that they require tying, instead of nailing in. In fastening the branches where they are to go, they must be laid on the full length, without shortening in the least. The wall trees must have the same attention paid to them, if necessary.

Cherries.—The thinning of the fruit is of the first importance; and the nailing in of all new wood that is required to be retained will be better done now than at any future time. The latter work would have been the better for being attended to last month, but where circumstances prevented the performance of it, you must complete it without further delay. In a general way, the rubbing off of all useless shoots and the protection of those intended to be retained will have been seen to, and where that has been done you need only look to the security of those already nailed; but where it has been postponed you will have to see to both without delay. In the event of the trees having been entirely neglected till now, there is much to do-to cut away weak and useless shoots, which, by rights ought to have been rubbed off while young, and before they had an opportunity of robbing the tree of nourishment; to clear away all rank wood that has grown too vigorously, and such branches as cross and interfere with each other; and nail in neatly and securely all eligible and useful branches.

Currants and Gooseberries.—These fruits, because we suppose they happen to be common, are too often neglected, and yet there are few things that pay better for a little attention. For the benefit of the bushes and the remaining berries, a sufficient quantity should be gathered in a green state; this will enable the portion left on the trees to ripen better and earlier, and to grow much larger, which is what is required. In gathering, leave the gooseberries four inches apart all over the bush, and the currants far enough asunder to allow of the bunches attaining a fair average size.

Figs.—The less pruning these have the better at this season, but when you observe any particular branch growing unusually vigorous, lose no time in taking it off. Foreright shoots—that is, those growing outwardly—must be at once removed, for they are neither useful nor ornamental, and only distress the tree unnecessarily.

Pruning and Nailing.—Where you have any wall trees that have not had their summer pruning and nailing, that very essential work should now be seen to; otherwise the fruit upon such trees will not only be small and ill flavoured, but scarce and slow of growth. And besides injuring the quality and appearance of the fruit, such treatment is detrimental to the tree itself, in a very great degree. Apricots, Peaches, Nectarines, and the like, which produce their fruit principally upon the shoots of one year's growth, are very sensitive as regards such neglect, and it should be studiously avoided. Then, again, independent of the above reasons, it causes much perplexity to the pruner in having to break through and regulate such a confused mass of wood, and this in itself should be a sufficient inducement to see to the work at the proper season.

Rampberries.—These, as is well known, produce a great number of suckers annually, and are pushing on rapidly now; therefore it is desirable to remove some of the weakest, by digging down to them with a spud and taking them off at once. This, however, is an operation that need not, and indeed should not, be performed when you require all the plants you can get; but when you do have occasion to remove them later on, for increase of stock, see that they are not injured in taking them up, and when gathering the fruit be careful not to damage the young suckers by treading upon them. In any case, you must be particularly careful, for on a portion of them we rely for the next year's plants, as the old canes die down to the ground after having done their work for the season.

Strawberries.—Make new plantations where necessary, and for this purpose have the beds or borders intended to receive the young runners deeply trenched; and as soon as you have done so, lay on a good dressing of half-decomposed stable manure, forking it well in at the time. The old wornout beds may be cleared and trenched for the reception of vegetable crops, as it will be unadvisable to replant with the same fruit again. Keep the fruiting plants clean, and, provided the weather be very hot, you may choose between size and flavour. That is to say, if you desire to increase size and favour the bearing, you may water them; but should you prefer flavour and smaller berries, do so as little as possible, for there is no comparison between the excited and the less excited fruit.

Vermin.—Search continually for these, especially on walls for snails; but do not neglect the beds and borders, where slugs abound in wet weather; nor fail to look after wasps, which keep a close look-out for ripening fruit. The snails must be picked off and thrown into salt and water; the slugs entrapped by laying cabbage leaves near their

haunts, and, when collected, served in the same manner as the former; the wasps may be decoyed by placing bottles half filled with beer and sugar near the fruit you wish to preserve, before it is ripe enough to be tempting.

Vines.—Clear these at once of all superfluous wood. and cut away all laterals, of which there will be a great number, for they shoot out at every joint. See to the fastenings of all bearing branches, and, where defective, make them good; for if there be anything like a crop the supports will need to be strong. In a general way, it will be advisable to allow only one branch on a bunch to swell, or two at the most: and in either case take off the shoots one joint beyond the fruit, and fasten up the end well, giving it the best position it will reach, by inclining the branch upwards or downwards to be nailed. Continue the rubbing off of all fresh shoots, and to secure those branches which were selected as useful, before the wind has an opportunity of breaking them. In making up your mind as to the number of bunches to be left, do not lose sight of the fact that the less the Vine has to do, the better it will be done. the utmost importance that every attention be paid to the stopping and training of the various shoots, as it is by this means, and this alone, that a free admission of sun and air can be insured, without which it would be impossible for the fruit to ripen properly. The Vines should likewise be frequently and carefully examined for mildew, and upon discovering the slightest speck of this disease, lose no time in applying flour of sulphur, which will check the mischief.

Wall Trees.—Apricots, Nectarines, Peaches, Plums, and, in short, every description of fruit that is grown on the wall, may have a continuation of the treatment advised last month, to which we refer you for instructions.

#### AUGUST.

Apples and Pears.—Thinning is a necessary operation just now, and both espaliers and standards will be benefited by it; for it is a positive fact that when a tree is overloaded one season, it is likely to suffer for it, by producing a very poor crop the next. Reduce the number equally all over the tree, according to its size, and you will have no occasion to complain of the quality of the fruit this season, nor of the quantity and quality next year.

Arrears.—We hope our readers have cleared up every description of work that they were told to do last month, but if not, we can only impress upon them the necessity of referring back, and making up for lost time, by completing anything and everything remaining in an unfinished state.

Budding.—This may still be carried out where it has not as yet been commenced, and such stocks as were operated upon in June or July should be carefully examined, for the purpose of making sure that they have "taken" and are progressing favourably. The method of performing the operation will be found fully treated on at page 186.

Currants and Gooseberries.—The former should have their present year's growth properly thinned, leaving merely enough to furnish next season's crop. The same directions will hold good with regard to the latter, and therefore there will be no occasion to repeat them. Any fruit intended to be kept as late as possible should be covered with net, as a protection against flies, and other enemies that crawl up from the ground to devour the produce.

Fruit Trees.—The generality of these, but those on walls, and espaliers in particular, should be minutely looked

over for one or two reasons. First, for the purpose of tying or nailing in all leading shoots, and thus giving each one enough room to allow of sun and air getting to them, without which it would be impossible for them to thrive; and, secondly, in the event of rain (which, however, we have no right to expect now, any more than usual) being abundant enough to cause an increase of growth in the midsummer wood, and a second growth, as it were, of foreright shoots that had, as a matter of course, been previously stopped, no time should be lost in stopping again, or cutting back, where necessary, so as to prevent a too rapid circulation of the sap.

Raspberries.—These should be gone over daily when they begin to ripen; for they very quickly spoil, and, as a consequence, one-half the benefit of a good crop is lost if not attended to in time. The same care must be taken all through the season, or, at all events, until the whole of the fruit is gathered.

Strawberries.—No further time should be lost in the formation of new beds, and we advise our readers to hasten the work as much as possible. Such runners as are required for this purpose must be pegged down at once, but if a sufficiency has already rooted, you may clear the fruiting plants of them.

Vermin.—Insects of every description are very troublesome just now; ants, flies, snails, slugs, wasps, and others too numerous to mention, are all very busy, and want to be first with the ripening fruit. Snails and slugs must be picked up and destroyed as soon as caught, by throwing them into a pail of salt and water. Bottles half filled with beer and sugar will entrap an endless number of ants, as well as flies, wasps, and other winged pests; they should be placed for that purpose near to the fruit you desire to preserve. Another good plan is to well syringe any trees that may be infested with vermin of the caterpillar tribe, or you may, if you have any weeds to burn, make a bonfire of them on the windward side of the trees, so that the smoke arising therefrom will blow through the branches and disturb thousands of them.

Vines.—These may have a continuation of the treatment already advised, as regards the removal of all useless shoots, and the thinning of the bunches when necessary. All shoots of recent growth must be displaced; but do not pick off any of the foliage, unless the leaves are so placed as to cover one another too closely. It is a bad practice to strip the Vine for the purpose of letting the sun get to the fruit, for when the useless shoots are removed, there will be no more leaves on the bearing branches than is absolutely necessary.

## SEPTEMBER.

Aged Fruit Trees.—In gardens where the trees are old, it will be policy to dig round them, and put down a six-inch layer of decayed dung, in a ring as it were, for about three feet all round the stem or trunk of the tree, by which treatment the fruit will be much improved the following season. Advantage should be taken at the same time to prune off all dead wood, for this kind of work is always better done before the fall of the leaf, if practicable, as you can then see every dead twig or branch that requires cutting away. In performing this operation, you must cut below where it is dead, that nothing but live healthy wood may be left. Then, again, another reason why this kind of work is better done now than in the spring or summer is, because there is no danger of the wounds bleeding, as is the case

when they are cut back early in the season. It is always a bad sign when the branches die at the extremities, for it shows one of two evils, either that the roots have not enough nourishment, or that they have got into something they do not like. In either case, if the fruit be choice, it will be necessary to dig down to the roots for the purpose of removing any tap that descends into objectionable soil, such as clay or gravel, and surrounding the roots with fresh compost of a more nourishing description. In a month from this time you must prune away half the head, to compensate for the loss of root, and the tree will be established in health at least, even if its life is not spared for very many years.

Fruit Trees generally.—These may be planted, potted, and manured; therefore, if you have any laying in by the heels, see to their removal at once, for it is a very bad plan to keep them in that position a day longer than can be helped, as every hour after a certain time has a baneful effect upon them. Bush fruits, properly taken up and carefully planted, ought not, and will not, suffer from moving in the least degree; but you are certain to lose, if not the whole, the greater portion of them, if you permit them to lie about waiting to be planted.

Gathering.—Fruit of every description must be got in as fast as it ripens, but in doing so take care not to bruise it; for an apple or a pear (or indeed anything else, even in an unripe state), if allowed to fall into the basket instead of being gently laid there, will very soon show indications of decay, and when once this is the case, there is no remedy save that which cooking and eating can afford. Wall-fruit should be gathered singly, by hand, without damaging the bloom, and be laid on moss or some soft material, for its own weight on a hard substance would bruise it, to say nothing of the mischief that the bloom would sustain.

Gooseberries and Currants.—Fork lightly between

these for the purpose of mixing or incorporating the manure that was, or should have been, laid between them last month, leaving the ground in a rough state for the purpose of sweetening the soil and admitting air to the roots.

Routine.—All spare ground, and especially that set apart for the reception of any choice fruit trees, should be well manured and deeply trenched, leaving it in the rough for the weather to act upon it the more effectually. Treatment of this kind aids materially in the destruction of insect life, and therefore cannot be too often attended to.

Strawberries.—New plantations may now be made using the strongest and best-rooted runners for the purpose, if required; but if you do not need a further supply of plants, let the runners be put out in a store bed, six inches apart in every direction. Where any plants have been prepared for forcing, by pegging some of the early runners down in pots, they may be detached from the old roots, and repotted in six-inch pots filled with good strong soil, and placed where they can be watered frequently in dry weather.

Vermin.—Just now the most disagreeable work we have to perform is the destruction of living enemies; such, for instance, as ants, birds, caterpillars, earwigs, flies, wasps, and a host of other depredators, which almost defy the efforts of the most painstaking and earnest gardener. The means for their destruction are plentiful enough, it is true, but, unless they are used with untiring energy, they prove of little or no avail. Birds must be shut out with netting, or scared away by noise; earwigs destroyed by placing lengths of beanstalk all about the trees, and morning and evening blown into a pailful of salt and water. Snails and slugs may be entrapped with cabbage-leaves laid on the ground; but these must be cleared once a day, and the vermin served in the same manner as the earwigs. Ants must

be traced to their nests, which, when found, should be surrounded or covered with an inch thickness of quicklime, and watered with a fine rose. Wasps may be enticed into bottles half filled with beer and sugar; but if their nests can be found, thousands may be destroyed by lighting brimstone and tow at the entrances. As for caterpillars, the only effectual method of destroying them is to pick them off by hand, and throw them into salt and water.

Vines.—These on walls must have their growing shoots for next year's fruit securely fastened in as they advance, or otherwise the wind will blow them about and cause much damage. This is doubly necessary where there is much fruit still hanging on the branches. Do not allow any of the branches to shade the fruit, or fall into the very common error of removing the leaves that shade it, because the latter are of service. Rather let the bunches take their chance so far, than remove a leaf on the shoot which holds the fruit. Beyond attending to this, nothing further is necessary than that of removing all side shoots that are not absolutely needed.

Wall Trees.—Give protection to any tender kinds by sheltering them from cold winds, unnailing the younger shoots from the wall for the purpose of preventing premature breaking or budding.

# OCTOBER.

Apples and Pears.—Both should be gathered at once; for to leave them any longer on the trees would be running a risk, as, in the event of a frost overtaking them, it would endanger their keeping. We do not mean that they need necessarily be left till this month, because many sorts will

be ready before, which may be ascertained by trying one of the fruit; and if the pips have begun to colour, however slightly, the fruit is ready for gathering. Always gather in dry weather, when the sun has been out some time, as dampness is ruin to fruit of any kind. Lay them in straw, in a dry, cool room, where the frost cannot reach them, and in two or three days they will be wet on the surface; they must be wiped and laid down again, and the operation must be repeated as often and as long as they get damp; but when they have done sweating, no more wiping will be necessary.

Apricots, Nectarines, and Peaches.—Many gardeners unfasten the shoots of these, and support them away from the wall. This is done with a view to keeping the growth back, and thus preventing an early bloom, to be eventually cut off by the spring frosts; but we consider the remedy worse than the disease. Our advice is to keep the sun off by covering with net, and there will be a later bloom, which will then escape frost altogether. Let the trees have all the benefit of the sun to ripen their wood; but as soon as the buds begin to swell, cover them up lightly, so as to break the rays of the sun. For this month, however, let them all be exposed to the weather; nail in all loose shoots, as a protection against the wind, but when doing so, remove all useless ones you may come across, without actually pruning, which may be left till next month.

Cherries and Plums.—Any of these on the wall must be carefully examined, and all the useful shoots fastened temporarily, as a prevention against their being broken by wind.

Currants and Gooseberries.—You may leave these till next month; but when the leaf has all disappeared, they may be planted with safety. They may be pruned as soon as you like to begin the work, and the cuttings that will be

produced may be put into the ground to strike, if a supply of young trees be considered necessary.

Late Plums.—The ravages of birds, vermin, and the like must be prevented as far as it can be done; and as soon as you have removed all dead and dying leaves, you may clear the bed or border, as the case may be, and throw the refuse in a heap to rot.

Medlars.—These should be gathered and laid by to rot, for it is not until they are decayed that they are considered fit for use. They must, however, be occasionally wiped, or otherwise they would turn mouldy, and become unfit to eat.

Planting.—We have no objection to a removal at this season, where absolutely necessary, but, as a rule, next month is the best of the whole year, in most localities, for planting in general. There is no objection to your marking all the trees and bushes you want from the nursery, ready to take up when the time comes round for so doing; and so desirable is it to have them out of the ground as short a time as possible, that we should even go a step further, and have all the holes dug ready to receive them directly they arrive. The distances for standard Apple, Cherry, Pear, and Plum trees to be planted should, if you have room, be from twenty to thirty feet apart; dwarfs, half the distance. Espalier and wall trees should be fifteen feet asunder, although in small gardens the anxiety for variety induces people to plant closer.

**Pruning.**—Although this is an operation mostly postponed to the beginning of the year, we prefer pruning standard trees while the foliage is on to tell us which branches are alive and which are dead, because all dead wood should be cut away first, and then we can see better as to the living portion. Standard trees, remember, should be as nicely pruned as those on a wall; begin by re-

moving all the small wood that crowds the interior of the head, in doing which there is no difficulty, and you can then see how to proceed. Next cut off even the larger branches that have an inward tendency, crossing other branches, for that will open out the head still more. Then, if there be any portions of the head where the branches are still too thick, thin them judiciously, by removing those that are most evidently in the way, keeping in view the fact that you had better retain an ugly, healthy branch, than a handsome one that is cankering. When trees are very tall, it is policy to lower them a bit; but, unless they are positively out of reach, this need not be done, as the best fruit is always nearest the top. It is light and air that conduces to the health and bearing of a tree, and so long as you enable both to get to it in every part, your object will be gained.

Raspberries.—The canes must be well supported in case of high winds, and for this reason the sticks and ties should be occasionally examined, and, where defective, made good; but, beyond this, nothing further need be done till next month, when the old growth will have died down, and the wood of the canes for next year become more ripened.

Strawberries.—Remove all discoloured leaves and runners, and clear the beds thoroughly of weeds; then loosen the surface of the soil, and draw some of it to the plants. Beds may also be prepared for planting at the end of the month; and for this purpose use strong plants, from runners taken off at the proper season. Having dug and dressed the ground, tread it down flat, but not too solid; then rake it level, mark out the rows with a line stretched tightly, and put it down with the back of the spade. The rows should be one foot apart, and at this rate three rows in a bed will occupy a four-feet width, leaving

six inches outside. Between these beds have alleys eighteen inches wide, or, in the event of ground being scarce, a foot would do. Put the plants in a foot asunder in the row, which will make them the same distance each way. Use a dibble for inserting them, and press the earth close to the roots. Shift all the runners that have been potted for forcing, and use six or eight inch pots—if the latter, you may have as many as three in a pot—and keep them regularly watered until they are transferred to the forcing ground.

Vines.—Examine these for the purpose of ascertaining where there are any ill-placed shoots, and remove the same as soon as discovered. Thin the Vine, and look after the fruit.

Wall and Espalier Trees.—These should be divested of lateral shoots, as well as any that extend sideways beyond the prescribed limits; and when this work has been skilfully performed, your next business will be to see that all shoots are closely and regularly trained, so as to give not only the fruit, but the wood itself, an opportunity of ripening.

## NOVEMBER.

Almonds.—These should have all their weak shoots cut away—we mean those which are too small to bear fruit or bloom; for they belong more to the shrubbery than the fruit garden, the blossom being looked upon as of more value than the fruit.

Apricots, Nectarines, and Peaches.—For the further management of these, look to the work for January, if you are desirous of getting the work forward, but not otherwise.

Cherries and Plums.—See to the planting of these as soon as the foliage has taken its departure from the branches, for unless they are removed before the frost sets in, the work would have to be put off to a future time, to the ultimate detriment of the trees themselves. As we have before remarked, when planting, have a proper care to the right disposal of their root fibres, by spreading them out regularly on every side; and to the filling in of the soil, by working it thoroughly down among them with the hand. In conclusion, bear in mind that weeds, leaves, and other rubbish should never be suffered to remain upon the ground, but be cleared away as fast as they accumulate, no matter how often such attention be required.

Currants and Gooseberries.-You cannot do better than see to the planting of these, wherever wanted, in the following manner:-When it is intended to put them out in a plantation by themselves, give them sufficient room; that is to say, the rows should be ten feet apart, and the bushes six feet asunder in each row. At such a distance they will have full scope to grow without interfering with each other; besides which, it affords every opportunity for digging and hoeing between them when necessary, as well as for gathering the fruit when ripe, and pruning the trees when requisite. Then, again, it allows the bunches and berries to grow large, and affords sufficient accommodation for all purposes There are several methods of pruning these, but the easiest and the one most generally practised is to cut off all laterals pretty close, leaving the main branches almost bare with a good leader, which, unless too long, should be left If there be a very strong lateral, it may be a question whether it would not make a better branch than the old one; in which case the old one may be cut back to it. Black Currants are very shy of the knife, so that it is advisable to confine the pruning to merely cutting away all the weak shoots, and those that grow inwardly and across, leaving the strong wood alone.

Fruit Trees generally.—These should have the same treatment as advised last month, or, in other words, no time ought to be lost in the planting and pruning of such as have been hitherto overlooked.

Raspberries.—Strong and well-rooted suckers should alone be planted, and heavily manured and deeply trenched ground only ought to be provided for them. The canes, three in a cluster, should be planted in rows four feet apart, and three feet asunder from stool to stool, if we may use the term. If you have an old plantation that has not as yet been attended to, your best plan will be to remove all the aged stems that have fruited this season, and then thin out the young canes or shoots to three of the strongest on each plant, shortening the same by at least one-third.

Standard Trees.—Apples, Cherries, and Pears may be pruned at once in the same manner as advised for January, indeed, we might have referred to that month for planting; but although it may be deferred thus late, it should be attempted no later; we give the preference to this season, and the sooner done the better.

Strawberries.—Although beds can be made as late as January, they will ripen better and earlier if planted at once. The best plants are the runners of the last summer, which should have been pegged down so as to get well rooted; but any runners with roots will do. This delicious fruit is so easy of cultivation, that all the directions necessary are to provide good strong ground, to put the plants firmly into the soil, and there the mystery ends; the situation settles all the rest. They do well as an edging to a kitchen garden; they do equally well planted in rows on a warm border, a foot apart in the row, and eighteen inches from row to row. All

they require is plenty of room, plenty of sun, plenty of light, and plenty of good air.

Vines.—The pruning of these may be commenced as soon as convenient, although we have given all the necessary directions in the calendar for January, which is the period generally selected for out-door pruning. As we can add nothing of importance to those instructions, we have simply to refer you to them as your guide.

## DECEMBER.

Apples and Pears.—Continue to prune those against walls and espaliers any time this month. As these trees are perfectly hardy, you need not be afraid of the frost doing them the least harm from the operation being performed. In short, the same rule holds good with regard to cutting back as that recommended some time ago.

Fruit Trees generally.—Complete the transplanting of these as soon as possible, and, when necessary, perform the operation of root-pruning forthwith.

Newly planted Fruit Trees.—Take care of these; that is to say, let their roots be well secured from frost, by mulching and other means, particularly those of the more desirable and valuable kinds.

Standard Trees.—Secure such of these as appear to require it, against rough weather, by means of stout stakes and strong ties, more particularly such as have been recently transplanted; should you neglect this precaution for a single day, or even an hour, much mischief may follow.

Tender Wall Trees.—Let these be well covered up against frost, which is a much better way of protecting the buds than by the practice of unfastening the branches from

the wall. Dress old and other fruit-trees with a mixture of soot, clay, and lime, for the purpose of keeping away vermin.

Vines.—These against walls and in the open ground may be pruned at once, if not already attended to, in the same manner as already advised.

Grafting Clay is ordinary stiff clay, kneaded with a little water until it has passed entirely through the hands, and all stones, whether large or small, are removed. Squeeze it well until the air is pretty thoroughly driven out, mix with it about one-fourth of its bulk of cow-dung, amalgamate well together, and it is ready for use.

Grafting Wax.—Mix bees'-wax and resin in equal parts, and lower with tallow until it will melt at an ordinary heat, that is, one not sufficiently high to damage the trees, but the wax must be firm enough to withstand the heat of the sun. A good way of using the material is to paint one side of a strip of calico with the mixture while warm, and in that state bind it round and round the graft; a single tie is sometimes sufficient to keep it in its place.

#### CHAPTER III.

## THE FRAME GARDEN.

HINTS ON THE CONSTRUCTION OF THE FRAME—THE USES TO WHICH THE FRAME CAN BE PUT — THE GARDEN FRAME AS A PROTECTING MEDIUM—THE GARDEN FRAME AS A FORCING MEDIUM—PREPARATION OF THE DUNG FOR THE HOT-BED—METHOD OF BUILDING THE BED—CULTURAL DIRECTIONS FOR THE MANAGEMENT OF THE FRAME FROM JANUARY TO DECEMBER.

None but those who possess a garden frame can have the slightest idea of the pleasure to be derived from its use. They may be well up in the general routine of outdoor gardening; they may have a pretty clear knowledge of the various horticultural operations; they may even feel satisfied in their own minds that, beyond a bit of ground, an ordinary stock of tools, and a few pots, there is little further to be desired. But it is not so. As winter draws nigh, they will discover that many of the plants they have cherished through the summer must perish in less favourable weather, without some means of shelter from cold winds, heavy showers, hail, frost, snow, etc. A greenhouse they are unable to have, on account of the expense, but a one, two, or three light frame is within the reach of almost every one, and therefore there

is no reason why they should not have it. The ordinary, and almost exclusive, use to which a garden frame is put by the majority of amateur gardeners is that of raising a few brace of Cucumbers, or perchance a Melon or two; and they, having accomplished that much, consider they have done wonders. But I would say to those of that way of thinking, a frame, even a cold one, is capable of rendering invaluable service; a hot one, more so, if properly managed. To this end, therefore, I shall endeavour to remove any erroneous impression upon the subject, by explaining in as few words as possible how to turn it to the best account; and for this purpose will show—FIRST, how it can be constructed; SECONDLY, what it can be used for; and, LASTLY, prove it to be one of the most necessary of horticultural appliances.

#### Directions for the Construction of the Frame.

The wood of which the frame is to be composed should be inch and a half deal, neatly planed, and dove-tailed at the joints. The top should be secured together by two cross-pieces, three inches wide, which should also be dove-tailed, one end into the back, the other into the front, and so placed that they come exactly under where the lights join each other. These cross-pieces should have a groove running the whole length up the centre of the upper surface, for the purpose of carrying off the water. At each end of the frame there should be a piece or slip of wood, three-quarters of an inch thick, and four inches broad, nailed or screwed on, so that the upper edge will be on a level with the upper surface of the light. The object of this is to prevent bleak winds from blowing in

under the lights. The dimensions of the frame itself, outside measurement, should be ten feet in length, four feet in width, fifteen inches deep at the back, and seven inches The lights, should be four feet long by deep in front. three feet four inches wide, and glazed with sixteen-ounce sheet-glass. Six-inch squares, with the laps left unputtied, are preferable to larger ones, puttied, for this reason: the small apertures between the laps will allow the steam to evaporate and the condensed moisture to escape, which otherwise would be retained on the interior surface of the glass, and create a continual drip and humidity, which would ultimately, in dull and damp weather especially, tend to rot young growth, tender foliage, etc. And again, small squares are preferable, on account of the facility with which breakages can be repaired. As soon as the frame is completed, give the interior of the structure three coats of white paint, and the exterior three coats of dark lead colour. With a frame of the above dimensions, which would not cost more than three pounds, the amateur cultivator will be quite at home, even in the depth of winter, and find continual employment all the year round.

## The Uses to which the Garden Frame can be put.

Our chief object in penning these few lines is to show the amateur cultivator, at a glance, what the garden frame is really capable of being applied to, either in a cold or a hot state; that is to say, as a means of protection against bad weather only, or as a hot-bed for raising seeds, striking cuttings, forcing on a small scale, etc.

## The Garden Frame as a Protecting Medium.

Those who have carefully propagated and tenderly ministered to the wants of their plants throughout the spring and summer months, know too well the anxiety with which they observe the cold season of winter approaching—and with what regret they contemplate the inevitable fate of their favourites, unless they can shield them by some means or other from the threatening storm—to need reminding that a cold frame, a few mats, and a heap of litter, will satisfy their most sanguine desire, so far as regards the preservation of their plants. Now, having told them how to build the frame, we shall, in due course, initiate them into the way of utilizing it to the best advantage.

## The Garden Frame as a Forcing Medium.

As a rule, it is to the above purpose that this structure is most generally applied, but few indeed are aware of the many great results to be ensured by a careful management of it, after all. Small as this glass-house is, it is capable of producing very many useful subjects, besides Melons and Cucumbers. Flowers may be forced, fruit may be hastened to perfection, vegetables produced much earlier than in the ordinary way; in short, heat will do wonders for those who require vegetation of any kind quicker than the natural elements or ordinary seasons will produce it.

## Preparation of the Dung for the Hot-Bed.

About the middle of February get together of stabledung a sufficient quantity-say, three good one-horse cartloads—for a three-light frame such as we have just described. The best for this purpose is manure about one week old: that from highly fed horses being preferable, it being much more retentive of heat than a larger quantity produced by poorly-fed animals. As soon as obtained, have it conveyed to the spot you have fixed upon for the establishment of your bed, which, by-the-by, should be in a well-sheltered situation, with a southern exposure, and so protected on all sides that high winds can do it no possible harm. accomplished this much, your first business should be to purify—or sweeten, as gardeners have it—the dung; in other words, to clear it of those strong, rank gases with which it is, in a green state, charged, and which, if not got rid of, would prove very destructive to vegetable life. For this purpose it will be necessary to thoroughly and effectually ferment it previous to applying it to the use of a hot-bed. To accomplish this, throw it all up together in a conical heap, and in this form let it remain for at least a week, at the end of which time it will steam considerably, and At this stage of the generate a somewhat strong heat. work you must take care that the heat is not so great as to burn the material, which, if in danger, will be seen by the interior becoming whitened and dry. Provided all is right. it may be allowed to lie in this state for a week longer. when the whole must be carefully looked over, and again made up into a cone as before—every attention being paid. during the movement of the mass, to see that that portion of it which previously formed the exterior now forms the interior: likewise that all lumps be properly separated, and that the whole be lightly thrown together again. This is termed, by professional gardeners, the first turning. In this state it must remain for another week, during which period the heat will have become more regular and steady, and in consequence the dung will have lost much of its noxious gases. A second turning, which should be accomplished in the same manner as the first, will now be necessary; well watering it during the operation, not only as a preventive against burning, but for the purpose of purifying the mass. This should be done every time it is turned over, by which means the duration of the heat of the bed will be materially prolonged. persons consider two turnings sufficient, but we prefer three at least, as the more the materials are judiciously fermented the more satisfactory will be the result. In any case it should be turned and moistened till the straw becomes a dark brown.

## Method of Building the Hot-Bed.

Having prepared the dung in the manner above described, your next business should be to make up the bed, and for this purpose the space to be occupied—thirteen feet long, by seven feet wide, for a three-light frame—must be measured off. The ground on which you intend to erect the bed should be not only quite dry, but so situated that no water can possibly get to, let alone remain on it. If, however, you have no alternative but to select a damp situation, a good six-inch layer of dry soil or rubbish should be first of all placed all over the spot where the dung is to go. Next drive down four stakes, one at each corner of the parellelogram, as described above, each of which should stand three feet above the level of the ground, to indicate

the boundary of the bed. The foundation of the bed may be laid with any dry and rough materials, and upon this place, first of all, the coarsest and longest of the dung. Then commence throwing up the mass of short dung, which has already been prepared, in small quantities at a time. shaking it out lightly with the fork as you proceed, so as to distribute the long and short portions equally over the bed. It should be beaten down with the fork, but on no account trodden down too solid. Should you observe, during the building of the bed, that the dung forming the cone has too much heat in it still, which will be indicated, as before observed, by its assuming a whitened and mouldy appearance, it should be freely watered with tepid water, through a rose watering-pot, previous to using it. The maximum height to which the bed should be made is three feet and a half in the front, and four feet at the back; and when it has settled down to the requisite height, comb it all round the edges with the fork. for the purpose of removing all the loose straws, and giving it a neat and finished appearance. The frame may now be lifted on to the heap, there to remain for about five days. during which time the centre of the bed must be frequently forked over. It will be necessary to remove the frame after this, to ascertain whether any unevenness has been caused from the subsiding of the fermenting mass, when, should such be found to be the case, it must be immediately repaired. The sides of the bed should then be raised some six or eight inches higher than the centre, to allow for its being pressed down by the weight of the frame. In a week from this time, the bed should be covered with a six-inch layer of tan, in a dry state; a precaution that will have the effect of neutralizing the rank heat which is almost certain Finally, cover the entire surface with a three-inch layer of soil-equal parts of sandy loam and leaf mouldand the bed will be ready for any purpose to which you

may think proper to apply it. If, however, you contemplate growing Melons or Cucumbers, it will be necessary to raise a mound or hillock of the proper soil, say eight inches in height, under each light; but for all other purposes a level surface will be sufficient.

# Cultural Directions for the Management of the Frame from January to December.

#### JANUARY.

Asparagus.—This may now be forced in the hot-bed, and produced in a very short time. This is done by placing old roots close to each other all over the bed, with three inches of soil under them, and covering them with three inches of mould, and after a while with three inches more; they will come up very soon and very thickly.

Auriculas.—These should have a cold frame to themselves. The principal evil to contend against with these. and, in fact, nearly all plants, is damp; and when frames stand on ordinary ground, which is too often the case, it is impossible to guard against it. Many persons stand the frame on a bed of ashes, or some medium which they consider dry, and think themselves perfectly safe; forgetting that every time they water the plants the surplus runs into the stuff at the bottom of the frame, and has to evaporate therein. It soaks in it is true, and the surface very soon becomes dry; but, as nothing perishes in nature, the water rises again in a kind of fog, and this is little better than poison to all plants in confinement, and to Auriculas especially. As a safeguard against this mischief, the best plan is to pave the bottom with bricks or tiles, which, if placed in a sloping direction, will carry off all the moisture that runs

through the pots immediately. When the frame can be opened frequently, the damp vapour goes away; but it is in frosty weather, when it would not be safe to give air, that the damp vapour is confined and settles on the plants. obviate this as much as possible, never water the plants till you are absolutely obliged, and then do it as carefully as possible, and give air whenever it is safe to do Take the lights off entirely on fine days, remove all decayed leaves as soon as observed, and keep the surface of the soil stirred, without going deep enough to disturb the The blooming plants will occasionally throw out side-shoots, and unless you require increase, take them off before they make any size; but should you need a further supply of young plants, remove them as soon as they are large enough for striking. If you have omitted to cut down the bloom-stalks that came up in the autumn, do so at once, in preference to letting them flower; but any that are already in full bud may flower well, although too early for exhibition, and may be left to do so. Seedlings still in the seed-pan must be carefully looked after, and the surface of the soil stirred at the same time.

Carnations and Picotees.—These, like the Auricula, are very impatient of damp, and as such should have similar treatment. The leaves that turn yellow must be very carefully picked off as soon as observed, as the bark is very susceptible of injury. Stirring the surface of the soil will benefit them greatly, and as such it should be done whenever necessary. They must be watered but seldom, for as they remain comparatively still all the winter months, they scarcely require it while there is the slightest moisture in the pot, and this may be soon ascertained by turning out the ball and examining it.

Cauliflowers.—If you have any plants in frames, afford them the necessary protection from frost and excessive wet,

by giving extra covering in the first instance, and in the second, by keeping, the lights closed, or, if opened a bit, so slanted that the wet may run off.

Cinerarias.—These cannot stand frost, and, if in an ordinary cold frame, the woodwork should be banked up with turves, a foot thick all round; but in fine weather they should be entirely uncovered, and covered up again at night sufficiently secure to resist frost. They, too, are impatient of damp, and for this reason should be frequently examined, to see that they are not suffering from it. Remove all decayed leaves, stir the surface of the soil frequently, water only when requisite, and search for red spider and fly. The former may be got rid of by dusting with black sulphur; the latter by fumigating with tobacco smoke.

Cucumbers and Melons.—These beds may be begun now, if not seen to in November; but if they were commenced then, look to the linings, and see the heat does not decline. Those intending to begin this month must get the hot-bed ready in the manner described already. If you procure plants, you may, about the third week, place a plant under each light; but if you have to sow the seed, put a few in a pot, and raise them in the frame. As soon as up, pot them off singly in three-inch pots, give them a little water, and replace them in the bed. As soon as they have two good rough leaves, and the plants keep growing, pinch off the top of the shoot to encourage a side-growth; and as soon as a couple of side-shoots make their appearance the plants are ready to put out in their respective places. the heat of the present bed has declined a little, it can be improved by removing some of the cold dung that projects beyond the frame, till you come to the warmer portion, and line it well with hot stable-dung, two feet thick all round. This will bring up the heat, which should never be less than fifty-eight degrees at night, and seventy-five degrees by day. In planting, take the pot in your hand, turn the ball of earth out, and set it upright in the centre of the light, and put the same compost all round it, a little higher than the surface of the ball, so as to form a kind of basin to hold the water. The roots will soon make their way through the heap, when you must add more, and at length enough to nearly level the soil; for the ridge that originally formed the basin must be levelled and drawn down, so that the average thickness of the soil will be about six inches. Before the month has expired, the plants will have made a little growth, when they will require regulating. But we shall tell you all about that next month.

Hyacinths and Narcissus.— These may be well grown in a frame, and, when intended for forcing, they can be removed when wanted; but they will bloom well in the cold frame. These, however, unlike fibrous-rooted plants, require keeping moist; in short, as the blooms rise, they should not be permitted to get dry.

Pinks.—These are potted for the convenience of removing and late planting, and not for the sake of protection. If carefully grown in pots, they will turn out into beds, and do as well, or nearly so, as if the bed had been made in the autumn. They are generally potted in four-inch pots, two in a pot, but one in a three-inch pot will do as well. They require more water than Carnations, because they make more growth during the winter months; but, nevertheless, they must not be kept too damp. Give them all the air possible in fine weather; for although more hardy than many plants, and capable of standing an ordinary winter out of doors, they will not bear much frost in pots, because, if frozen through the sides of the pot, the fibres of the roots get killed, and the plant, in consequence, receives a severe check.

Polyanthuses and Primroses.— These in frames must now be carefully examined for slugs and snails, for

where these vermin are suffered to carry on their work unmolested, the plants take a long time to recover the effects of their depredations. Pick off all dead leaves; never permit the soil to get dry, nor suffer them to become too wet.

Rhubarb and Sea Kale.—These may be forced in precisely the same manner as advised for Asparagus.

Routine.—The frame or frames should be kept very clean at all times. They—the old ones, of course—must be occasionally swept out, and the inside of the lights properly cleansed. All dead leaves should be removed daily from the bottom, and where there are shelves so placed as to bring some of the plants near the glass, they must be cleared also. It is as essential to keep the flooring dry, as it is to dry the shelves, for the damp will rise up to them and settle on the plants, unless you are very particular in this respect.

Small Salads of all Sorts.—These, as well as Radishes, Lettuces, and Onions, if required before their proper season, may be planted or sown now on a hot-bed, should you have one at liberty for that purpose.

Tulips.—The directions given for the management of Hyacinths and Narcissus will equally apply to these, and as such there will be no necessity to repeat the advice.

Violets.—These in frames, whether planted in the soil or in pots, will require to be cleaned frequently; that is to say, many of the under leaves will decay from time to time, and these must be removed as soon as discovered. Some of these plants will be ready for forcing, and when a few are wanted every now and then, they will flower considerably earlier in the cold frame than if grown in the open ground.

#### FEBRUARY.

Asparagus.—If you have a hot-bed ready there is yet time to force a few roots in the manner described last month. The roots for this purpose should be three years of age, otherwise they will yield but middling crops and puny buds. Let the crop that is coming through, no matter what the weather may be, have plenty of light and as much air as the temperature will permit of, for otherwise the produce will be pale and unsightly. Finally, let the water that is given at any time be of the same temperature as the bed, and be supplied through a rose watering-pot.

Auriculas.—About the latter end of the month make it a practice to stir the surface of the soil as low down as the fibres, but without injuring them, and throw out the earth thus loosened; then, having removed the lower leaves that are discoloured, if any, fill up the pots with a mixture of cow-dung. well rotted into mould, and sufficient silver sand to make it porous, to within half an inch of the edge of the pot This is an operation that should be performed on a fine day only; and having given the plants a good watering through a rose, so as not to disturb the soil more than possible, shut up the frame immediately. From this time they must be shut up close whenever the weather is cold, and be shaded from sun for a day or two, after which you may tilt the lights, or remove them altogether in mild weather; even a gentle shower will do them no harm previous to their showing for bloom, provided it does not get into the hearts. seedlings and offsets that require a shift, water moderately, and close the frame for a day or two after the operation. Seed may be sown the latter end of the month, in pots or boxes, and placed in the frame with the plants, where they

must on no account be permitted to get dry. A little damp moss may be placed in the top of the pots or boxes for the purpose of ensuring a regular moisture until the seed germinates, when it should be removed and the young seedlings shaded from sun.

Carnations and Picotees.—These must be kept closely covered during frosty weather, but on mild days air may be given, with as little water as possible. Provided the weather is genial and dry, the lights may be taken off during the warmest portion of the day, but be put on again at night.

**Cauliflowers.**—Seed may be sown in pans or boxes to be placed in the cold frame, where they can have the same protection as that recommended for the plants last month. Provided the weather is at all mild, the lights may be tilted, or taken off the forward plants entirely; it is only in severe weather that they require covering up.

Cinerarias.—These, being far more tender than Pansies and Pinks, will require to be kept as warm as covering can make them; consequently no air must be given them during cold and windy weather. The frame is not exactly the place for them, but, in the absence of a greenhouse, it is the next best accommodation that can be found. With care, however, they may be kept in pretty fair health, and in the spring, when they begin to grow, they will very soon recover from their present stunted appearance.

Cucumbers and Melons.—A temperature of from sixty-five to seventy degrees must be kept up for these, by re-lining the bed with fresh stable-dung as often as it declines. Whenever you find the shoots growing too rambling, prune them back a trifle, particularly if there is no appearance of fruit. In a word, take off the branches to within three or four joints from the starting point. Those that remain should then be laid on the surface of the bed

in the best direction to fill it up quickly, and the frame be closed up warm at night. Do not let the fruit on the former, when swelling, exceed four in number; and as regards the latter, three to a vine will be plenty if fine fruit is required.

French Beans.—Give air to those in pots in a pretty forward condition, if you can do so without lowering the temperature too much, and place them near the glass as a preventive against their drawing up weakly, otherwise they will produce a very meagre crop.

Pansies and Pinks.—Any of these in store pots must have similar treatment to Carnations, but such as are intended for blooming in pots should be shifted at once into six-inch pots filled with a compost of two-thirds loam from rotted turf, and one-third cow-dung rotted into mould, with a little silver sand to make it porous, if necessary. In potting let them be neither higher nor lower in the soil than they were before. As soon as shifted, shut them up for a day or two in a frame to themselves, because they will require to be frequently watered, and this would not agree with those in the store pots; besides, the plants intended for blooming in their new pots will require more warmth than the others.

Polyanthuses and Primroses.—Very little water is necessary for these when grown in pots; not that we mean a little at a time, but that moisture is only occasionally necessary. Whenever you do water, however, the entire soil in the pot must be saturated; anything short of this leaves some of the root dry, and the plant suffers in consequence. Take off all yellow leaves, stir the surface of the soil, throwing out the loosened earth, and fill up with a little fresh. Water them to settle the compost, and shut them up for a day or two that they may become established. These being by no means tender, unless over-nursed, they may have all the air that can be given them in fine weather afterwards.

Rhubarb and Sea Kale.—These may still be forced in the same manner as advised for Asparagus last month, if you stand in need of a further supply.

Routine.—As a rule, frames are intended for plants not quite hardy, and for hardy plants in pots. For it must be remembered that plants capable of standing an ordinary winter in the open ground very soon die if exposed to frost when in pots; that is to say, a frost that would not enter the ground an inch would be fatal through the side of a pot, because it would very soon reach the tender fibres that grow round the outside of the ball of earth. For this reason, then, never pot anything in frosty weather unless you intend either to plunge the pot, or keep it under cover.

Small Salads, Radishes, etc.—All the various kinds may be forced in the hot-bed, which cannot be better employed than in helping one to small crops of these things at a season when it is impossible to produce them without the aid of artificial heat.

#### MARCH.

Asparagus.—Beds devoted to this root require nothing further just now than fresh linings where the heat is declining, for if that is permitted to go down, the supply will become scarce in consequence.

Carnations and Picotees.—As the present time is the most suitable for shifting these things, you cannot do better than see to them at once; but, that you may not make a mistake, we will show you how to set about it. Take twelve-inch pots, and having put sufficient crocks—broken pots—to form a good drainage, fill them up high enough to rest the balls of earth containing the plants on. Rub off some of the surface, without disturbing any of the fibres, set the ball in the centre of the large pot, with the collar of the plant just even with the top edge of the pot, and press it down an inch into the soft mould below; then fill up with the compost, thrusting it down with your hand to make it lay solid against the sides, or rather all round the ball, and fill up level with the collar of the plant. As soon as you have shifted the whole of them, they may be placed in the frame again, or, if you cannot spare the room, under hoops and mats for a while; but do not forget to water them previous to doing so, to settle the soil.

Capsicums, Chilies, and Tomatoes.—All these must be raised in the hot-bed, and for this purpose the seeds should be sown at once, or at least the two former, because they complete their growth under glass; but the latter merely requiring to be well-established plants in time for turning out in the open ground by the end of May, need not be sown till the end of the month.

Cauliflowers.—A little seed may be raised in the hotbed, provided a further supply of plants is required. This should be sown in shallow pans or boxes filled with rich compost, and as soon as the plants have got their second pair of rough leaves, they may be pricked out in a warm situation on rich ground. Those that have been kept in cold frames all the winter may likewise be planted out.

Cucumbers.—These will still want occasional regulating, that the bearing branches may have sufficient room to grow properly. The old and used-up shoots should be cut back to any good strong lateral, so as to give the vine extra encouragement to send forth new growth and increase of produce. If any new plants are required, one or two lateral shoots may be pegged, at a joint, in six-inch flowerpots, and will make strong healthy stock. Seed may also be sown now to provide plants for out-of-door work.

French Beans.—Watering and gathering is all the attention these require just now. They can scarcely be picked too young, so long as they are of sufficient size for eating.

Frost.—If by any chance the plants in the frame get frosted, shut it up close at once, and do not suffer a ray of sun to reach the occupants till they have thawed, which will perhaps take a day or two to accomplish after a thaw has set in. Excluding sun, and thawing by degrees, prevents mischief very often.

Gourds and Vegetable Marrows.—These are best raised in a hot-bed in the same manner as directed for Capsicums, etc., and may have similar treatment afterwards.

Pansies and Pinks.—Shift these into six or eight-inch pots, in the same manner (using a compost consisting of equal parts of rich loam and well-rotted stable-dung, with a little silver sand to make it porous) as advised for Picotees; placing them in the frame again as soon as they have been watered and allowed to drain a bit.

Rhubarb and Sea Kale.—By placing the former in the hot-bed, as already described, a supply can be kept up from Christmas till the end of June. This root requires little or no care, save a uniform degree of heat, and gathering as fast as the sticks arrive at maturity; unless they are intended for show, when it will be necessary to pot the plants. Any Sea Kale, forcing in the hot-bed, will require looking to, and where the heat shows symptoms of declining, fresh linings must be supplied; for the plants will shoot provided the temperature is properly kept up, but not otherwise.

Routine.—As all the subjects in the frames, both hot and cold, are getting forward, no time should be lost in examining them, and doing, at once, whatever is necessary. It is the last chance for shifting Pinks if they are to be

flowered in pots; the same may be said of Pansies, Carnations, and Picotees. The compost for this purpose should be two-thirds loam from rotted turves, and one-third well-rotted stable-dung, carefully mixed and turned over, and minutely examined for grubs and wireworm. It will be advisable to uncover the frames whenever the weather is fine and open.

Small Salads.—Any of these in frames will require watering, and thinning also, where they are too close. Lettuces must have plenty of room, and so should Endive, Radishes, and the like. Mustard, Cress, Rape, etc., sown thickly, to draw them up, should be very gently watered overhead, so as not to crush them. Another sowing of each or any of the above may be made, so as to keep up a supply until such time as they can be reared in the open ground.

#### APRIL.

Asparagus.—Continue to force this so long as it is likely to be wanted; and as soon as a bed is exhausted, take up all the roots, and throw them away. Then level the soil again, and make use of it for anything that requires a declining hot-bed. There are many things that do. Celery, for instance, can be pricked out in it, Scarlet Runner Beans may be planted in it, or half-hardy and tender annuals may be got forward for transplanting by-and-by; or, if you like to get up the heat a bit, you may sow Capsicums, Chilies, Tomatoes, and the like; but for Asparagus a fresh hot-bed must be made.

Auriculas.—These are coming into bloom rapidly, and should, in consequence, be transferred to hand-glasses, or a

proper stage—if you have one—wherein they can make their display. This will leave an additional frame at liberty for work of another description.

Capsicums and Tomatoes.—Seed of these may be sown at the same time and in the same hot-bed as Cucumbers; that is to say, at the end of the month.

Carnations and Picotees.—Both these may now be shifted into the pots they are to bloom in, provided they were not repotted last month. The pots must then be set on a proper stage, if you have one, but if not, boards may be placed on inverted flower-pots, to keep them off the ground; and as a preventive against vermin each of the pots supporting the boards should be stood in pans of water.

Chilies.—Seed may be sown at once in a wide-mouthed pot or pan, to be placed in the hot-bed to germinate; and as soon as the plants are large enough to handle, prick them out in another seed-pan, six inches asunder in every direction, and return to the frame to establish themselves, previous to being removed to another frame to fruit in.

Choice Perennials.—All the seeds of such subjects may be sown in pans, if not already done, and put into the cold frame to germinate. If you have any seed already up, protect it from the sun, wind, and heavy rain, or hail, by shading from the former, and keeping the lights closed against the latter three; for, while the seedlings are small, an hour's neglect may destroy them all. As soon as the young plants are sufficiently large to handle with safety, they should be pricked out into pans or wide-mouthed pots, an inch apart all round the sides, and put into the cold frame as before.

**Cucumbers.**—The heat of the bed or beds must be kept up by fresh linings of stable-dung whenever necessary, all barren branches removed as soon as observed, and the

fruitful ones so regulated as to equally cover the bed. For the purpose of encouraging lateral shoots, the vines should be stopped at the ends, and such branches as have borne their fruit, and show no disposition to bear any further, should be at once cut back; and should the frame be overcrowded, remove a portion of the shoots that appear to be of the least use. Shade from very hot sun whenever necessary.

Cockcombs, Balsams, and Stocks.—Seed of these, as well as Asters and other tender annuals, may be sown now in pots or pans, and placed in the hot-bed, so as to ensure an early display of bloom. The seedlings, when up, may be gradually hardened off, by removing them to lower temperatures, such as a declining hot-bed or a warm greenhouse, previous to planting out in the open borders, or potting off for flowering in the dwelling-house or in the open air.

French Beans. — These require nothing now but gathering when ready, and watering when dry.

Geraniums.—Those in frames intended to be hastened must be removed at once to the hot-bed, so that they may be ready for blooming by the time those now in flower have exhausted themselves. In the event of any of them being attacked by green-fly, fumigate them at once with tobacco, and well syringe them afterwards to destroy any that may have escaped the fumes of the smoke.

Half-Hardy Plants.—All these in the frames must be exposed to the air, and unless there be an unusual quantity, they may have all the rain; simply covering them up at night with hoops and mats, or something of the kind.

Onions and Radishes.—These may still be sown in the hot-bed, the former, for drawing young, and the latter, as soon as large enough for the table; either of them, when in a pretty forward condition, should have all the air that can be administered without lowering the temperature. Water these crops occasionally when the soil is dry, and give them air while the sun is out.

Pansies and Pinks.—Should there be any still in small pots, shift them into larger ones at once, or plant them in the open ground, as you please.

Polyanthuses and Primroses.—These, when potted and kept in a frame, are liable to become infested with the red spider, if not regularly and carefully watered, and allowed plenty of air. As they are by no means tender, they merely require to be covered at night, and even then, in mild weather, the glasses may be tilted a trifle. It will be necessary to shade them while in bloom, or they will lose much of their beauty.

Rhubarb and Sea Kale.—Should you still need a supply of the former, treat it as recommended early in the season. The same may be said of the latter. Seed of either, or both, may be sown at once, in rich strong soil; and the producing plants watered whenever dry.

Routine.—All the cuttings of the various plants that have rooted may be potted off; but such as have been standing through the winter without having struck root, must be kept moist until they do. As cleanliness and dryness is of the greatest importance in close frames, let the bottoms of them be well brushed out whenever necessary, and have dead leaves and dirt of every description cleared away. After this return the plants to their places, and close the frames.

#### MAY.

Asparagus.—As long as the bed produces a few heads, so long must you continue to water and shut it up at night, but by day the lights may be tilted sufficiently to afford air and give colour to the buds; but, as we observed last month, as soon as it has become exhausted, the roots may be taken up and thrown away, they being of no further use, and the declining bed used for anything else, in small pots, that require a little warmth.

Auriculas.—Many of these having done blooming, need no longer be kept in the frame, but be placed on a dry bottom, in a shady situation out of doors. It will be as well, however, to cover them temporarily against heavy showers and bleak winds. Such as are still in flower may be either kept in the frame, or removed to where their bloom is most wanted, until it is over, when they must be treated as already advised. Seed may be sown in pans for raising in the hot-bed any time this month.

Balsams.—As fast as these plants fill their present pots with roots, they should be shifted into others a size larger. When potting, if there be any stem below the seed-leaf, get rid of it, all but an inch, by sinking the plant that much lower in the new pots. Give them water to settle the new soil close to the old ball of earth, and place them in the hot-bed again, close to the glass, where they can have all the benefit of the light. On all mild days give them air by tilting the lights a trifle behind, and water them occasionally when necessary.

Capsicums and Tomatoes. — Those which were pricked out at the beginning of the month, two in a pot, and grown on in the hot-bed, may, towards the end of it, be planted out under a south wall, or at the foot of a south

bank, and be well watered to settle the soil round about them.

Carnations and Picotees.—Such of these as have been removed from their frames, after being shifted into their blooming pots, and are not likely to want protection of this kind any longer, merely require watering when necessary, and examining, to see that no vermin have crawled up, or worms entered, their pots.

Cauliflowers.—Any of these plants protected in frames mutt be uncovered daily, for they are now beginning to show flower; and when this is the case, break down one or two leaves to shade them from sun. If the weather prove very dry, the plants must be watered. Another pinch of seed may be sown in heat for a further supply, if necessary, in the same manner as before.

Cleaning and Repairing.—Advantage should always be taken of fine weather for cleansing, repairing, and painting such frames as can be set at liberty for that purpose. Remember, if these things are neglected for any length of time, the work becomes not only more costly, but the plants suffer more or less all the while they are neglected, from drip, wind, etc.

Cockscombs.—Where these have been raised from seed, they will require shifting into pots of light rich earth, similar to that soil used for Geraniums, and they ought to have plenty of heat, light, and moisture, with air, when it can be given without reducing the temperature of the hot-bed below seventy degrees. As the roots begin to mat on the side of the pot, they must be shifted again. The tops of any that have been taken off and struck may have similar treatment.

Cucumbers and Melons.—By this time the former plants are getting forward; many of them have been bearing some fruit, in consequence of which certain of the branches will have left off, and other young ones come into fruiting.

For the benefit of the vine, cut away a portion of the oldest branches whenever you can do so without destroying useful laterals, and if a healthy shoot comes out near the base of the old plant, encourage it by making less healthy and vigorous portions give way to it. It is also a very good plan to peg down a very healthy shoot, and cover it at a joint, that it may strike root for itself and thus become as it were an independent plant. If this be done in several places, the newly rooted portions will grow as vigorously and fruit as prolifically as the original plant did. When these have rooted well, they may be detached from the parent plant, which in time may be removed altogether; for Cucumber plants, like everything else, get tired of bearing after a certain time. The heat must be kept up by fresh linings whenever necessary, for although the weather may be warm, bottom heat is essential for quick growth, and the Cucumber cannot grow too fast; watering likewise must be attended to. The Melon is so similar in its requirements to the above, that it may have precisely the same treatment, with the exception that it requires a greater amount of heat, and, as the fruit ripens, less water. The heat in the daytime, when the fruit is ripening, should be kept up at from eighty-five to ninety-five degrees—it will fall enough by Never allow more than three fruit to grow on a vine at one time.

French Beans.—Any that have nearly finished bearing may be turned out of the frame to make room for other subjects requiring warmth and protection.

Half-hardy Plants.—All kinds of these that have been sheltered during the winter may now be removed to where they are most required for decorative purposes. Azaleas, Acacias, Daphnes, Rhododendrons, Roses in pots, and blooming plants generally, will, towards the end of the month, do as well out of doors as in, but if they remain in

the frames they must be entirely uncovered during the day; it is at night only that perhaps it would be as well to draw the lights over them.

Pansies and Pinks.—The latter in their blooming pots may now be turned into the open air, and bedded out properly; but such as are intended to flower in their pots, should be set on boards standing on inverted flower-pots, placed in pans of water so that earwigs and other vermin may not be able to get to them. The pansies may remain in the frame for the convenience of shading, as unless the blooms are protected from sun, wind, and rain, they will soon go off. Any plants still in their store pots should be at once got out into the open ground, or into pots of a proper size. It must be understood that both of these in their large pots will do very well without shelter, if not intended for exhibition, provided they are regularly watered, and kept clear of decayed leaves and vermin.

Polyanthuses and Primroses.—These are both very apt to be infested with the red spider if permitted to get dry, and as a preventive against these vermin, it will be better to turn them out of their pots into a shady border, free from snails and slugs. The border should be prepared thus:—Take one-fourth of clean loam from rotted turves, and mix it up with three-fourths of ordinary mould; or you may put a three-inch dressing of the former all over the surface of the bed, and fork it in with nine inches of the soil. In this border they may be turned out with their balls whole, watered to settle the soil, and shaded for a day or two. Here they will grow fast, provided they are watered in dry weather, and in a couple of months will be ready for parting, if increase is desired. Sow seed of both in pans, to be sheltered in a spent hot-bed to germinate.

Roses.—Any of these in frames and warm compartments will continue blooming till those out of doors come into flower, provided they are carefully watered whenever necessary—every third time with liquid manure.

Routine.—At this period of the season frames become very useful for keeping newly potted plants in, they being the better for being deprived of air for a day or two after the shift. Many persons turn the frames into hot-beds for such subjects as require bottom heat when the plants are got rid of, and we do not know that they can be turned to better account.

Sea Kale.—Any that requires forcing should be placed in the hot-bed and covered up about the beginning of the month, and they will come in before the supply in the open ground is ready to cut. For the purpose of keeping up a good temperature it will be necessary to surround the frame with plenty of hot stable-dung.

Seeds.—All kinds of seeds of a choice nature, no matter whether tender or hardy, should be now sown in pans, pots, or boxes, and put into the hot-bed to germinate; for here they will come up quicker, and can be watered with greater regularity than could possibly be done in the open ground; and besides this, they can be protected from heavy rains, cold winds, and the depredation of birds. There is another advantage to be gained by sowing in pots, etc.: they can be more evenly distributed, and covered with greater regularity, because they can be seen better.

Small Salads, Radishes, etc.—Unless you are in a particular hurry for a further supply of these, there will be no necessity to encumber the frame with them this month, as the out-of-door crops will be coming up, and there will be no dearth of them.

#### JUNE.

Asparagus.—This has done its work for the present, and directions have already been given for clearing the bed, and utilizing it for other purposes.

Auriculas.—These—especially small plants—will be all the better for the protection of a frame, if for no other reason than that of shading; but the lights should be tilted, the covering slight, and the administration of light and air ample. It would be as well to set a brick under each corner of the frame, that air may be given below as well as above.

Balsams.—A frame will be found useful for these in all conditions of growth, provided it is uncovered by day but closed at night. The frame may, if necessary, be converted into a hot-bed for these and Cockscombs, the latter requiring heat, and the former being forwarded by it, though not absolutely requiring it.

Carnations and Picotees.—These may have precisely the same treatment as that recommended last month.

Cauliflowers.—These may be pricked out into frames to strengthen previous to planting out in the open ground.

Chilies and Capsicums.—Both of these may be grown on in the frame from which the Asparagus roots have just been removed, which, if too low in temperature, may be increased by a fresh lining of hot stable-dung.

Cinerarias.—As soon as these have done blooming, cut down the stems, stir the surface of the soil, throw it out and fill up the vacancy with fresh compost, so that the side-shoots may root into it, and place the plants in a cold frame. Here the side-shoots will grow rapidly, and when large enough for the purpose they may be taken off and

potted for increase. Such plants as have been bloomed in small pots should be shifted into larger ones, and in shifting rub off the surface mould, and insert the plants low enough in their new pots to allow of the earth coming well up to the lower part of the shoots.

Gucumbers and Melons.—The heat of the hot-bed must still be kept up at a proper temperature, otherwise they will not fruit as abundantly as they should do. See to the trimming of the plants, by removing all used-up branches, and giving room to the young shoots which are to succeed them. Supply them regularly with air and water; the former especially when the sun is powerful. In the event of the natural heat declining, it must be renewed with a fresh lining of hot stable-dung. Divide the branches regularly all over the surface of the bed, and, if too crowded, remove non-bearing branches to make room.

Dahlias.—These must be kept in the cold frame until all the planting is finished, when any that are left may be plunged somewhere out of the way—very close together—merely to grow for stock. Seed may be sown in heat if you are desirous of raising new varieties, and have not done so before.

French Beans.—Such of these as began bearing early will have become exhausted, and may be turned out of their pots; the soil may then be laid in a heap to sweeten, preparatory to being used for something else. Later ones in bloom and bearing may be put in their place, and these must have as much air as can be given without lowering the heat of the frame.

Pansies and Pinks.—These no longer require the protection of the frame, and may be turned out into the open ground, when they must be shaded from sun, and watered freely in hot weather. Seed may be sown in pans and placed in the frame to germinate, if not already done.

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Routine.—Rhododendrons, Azaleas, Daphnes, and many other plants in frames, will be all the better now for having the lights taken off, or they will draw up weakly; but it would even be better to remove them to a shady spot in the garden, except those in bloom, which might be taken to the greenhouse or some other eligible place where bloom is required. Half-hardy subjects, too, are as well in the open air as anywhere; even Geraniums are independent of the frame just now.

Sea Kale.—If a further supply of this vegetable is still in demand, you may continue forcing it in the hot-bed in the same manner as advised last month.

**Small Salads.**—The supply of these need not be continued in frames, except so far as to complete the growth of such as are already in heat, and have not come to maturity.

Vermin.—In a general way you must look well after these; that is to say, drive them away by keeping all the pots, plants, and frames clean and free from decayed vegetation. Slugs will often harbour about the bottoms and under the rims of pots, and even under the soil; therefore, if there be any indication of a slug or snail on any one of the plants, you must not give up searching until you have found and destroyed the intruder.

#### JULY.

Balsams and Cockscombs.—These must be shifted as they fill their present pots with roots, and returned to the frame again as soon as repotted, placing them as near the glass as possible. If room is very much required, the Balsams may be placed out of doors where they can be sheltered, but, unless it be absolutely necessary to remove them, they had better remain where they are for a short time longer. Should you have to place them out of doors, let them be put where they can have all the benefit of the morning and evening, but not the mid-day sun. If you are saving seeds, let the plants have the benefit of all the weather, and save seed from none but extreme double flowers. Cockscombs will bear any amount of heat, light, strength of soil, and room; they should therefore be kept near the glass, in a hot-bed the temperature of which is not less than eighty degrees. Water them whenever they are dry, and give air in the middle of the day when the sun has most power, because then it can be administered without lowering the temperature.

Capsicums and Chilies.—Both of these may, as soon as large enough to be moved, be potted off singly in four-inch pots, and placed in a moderate hot-bed to establish themselves.

Cucumbers and Melons.—These must have their bottom heat kept up well, by new hot linings, whenever the temperature declines, however often that may be. The regulation of the shoots, the plentiful admission of fresh air (when it can be given without risk), the thinning of the fruit (for not more than three should be permitted to swell on a vine at the same time), and the continuation of the general management of the past two months, are all necessary to the well-being of these plants, and must, therefore, on no consideration be overlooked or neglected.

Newly Budded or Grafted Subjects.—The cold frame will be found very handy in summer time for stowing away newly budded or grafted trees and plants that require no extra heat, but will not flourish when exposed to rain and wind.

Routine.—The various uses to which the cold frame

can be put, when not otherwise engaged, causes it to be looked upon as one of the necessary adjuncts to the amateur's garden, and not without cause; for, in the first place, all young plants that require occasional shading are mostly put into this structure, for the convenience of covering when required, and of keeping them altogether; the handiness with which they can be watered, too, and the facility with which they can be covered up in heavy rains, are other no less important inducements for transferring even young hardy plants to their protection; and, lastly, they afford a nice shelter for seedling plants, pricked out in pans or pots, to grow into strength before they are planted out or potted off, as the case may be.

Seed-Saving.—If you have a cold frame at liberty, you might set it apart to save seeds of any particular subject in. For instance, half a dozen Pansies or Petunias, or a like number of Verbenas or any other favourites, might very easily be grown and harvested in a one-light frame; and the value of the seed so saved from a select few of the best of any plant that can be found, can alone be appreciated by those who have seen the effect in new and improved varieties. Now, the frame offers the best medium for protection against the injury of the seed by the visits of bees from other and inferior productions, by simply fastening a piece of net over the frame, so that all intruders are stopped out, and whatever you may cross, or that may be crossed from the good varieties you are working on, you are at least convinced that nothing inferior has been introduced to lower the quality of the seed you have saved.

Tomatoes.—These no longer need the protection of the frame, but will, in fact, be all the better for being turned out between the fruit trees on a south wall, if the change has not already been made, as directed, at the end of May or last month. They do not thrive well in pots; they require firm nailing to a wall, on account of the great weight of fruit they have to bear. As soon as the fruit begins to show, the plants should be topped at all the branches, and the ends made fast with shreds and nails. It must be remembered that three or four bunches of fruit will be quite sufficient to leave on the strongest plants; therefore, where there are more, reduce them to that number, and thin the bunches when necessary.

#### AUGUST.

Auriculas.—Many cultivators of this flower differ in opinion as to the time at which it should be repotted, but we have come to the conclusion that the present is the best month to do it in, for several reasons, namely: the plants have, in the first place, made all the offsets likely to be available for increase; secondly, they have had a summer's growth in the open air; and, lastly, they have done all they are required to do for the time being. To permit them to grow any more would be encouraging them to bloom prematurely in the autumn, and this we do not desire; your best plan, therefore, will be to take each plant singly, turn out the ball to see if the roots have reached the side of the pot, and if so proceed as follows. If, upon examination, the root is found to be healthy, merely trim off the longest fibres, and having provided a clean pot, one size larger than the old one, fill it one-third with broken crocks, and put soil in the form of a cone, highest in the middle. Then, if, on removing the plant to be shifted, the centre-which is the chief part—of the root be long, it must be shortened to two inches below the collar: and at the same time cut away any portion of it that is cankered, even if you have to go ever so deep into the root to remove the mischief. It is the only way of saving it. Canker spreads with great rapidity, and in a very short space of time will literally eat the root away. As soon as you have done the best you can for its preservation, place the stump of the root on the centre of the cone. and press it down gently, till the collar of the plant is a trifle below the rim of the pot, and arrange the fibres regularly all round. Then fill up with a compost composed of two-parts loam from rotted turves, and one part decomposed cow-dung, with a little silver sand if necessary, to make it porous, pressing it gently to the fibres; and when the pot is filled up to the under part of the leaves, press the whole down together-plant as well as soil-so that there shall be half an inch of the pot left unfilled, for the convenience of watering without having to wait till it runs through. plants, as soon as potted, may be placed in the frame, liberally watered all over with a rose watering-pot, and shut up close for a couple of days. Any offsets with roots that you may happen to come across during the operation, may be potted off singly in three-inch pots, while those without roots should be placed round the edge of four-inch pots, and covered with a hand-glass, inside the frame, for a fortnight; by which time, with the aid of a few waterings, they will have settled in their places. Healthy, small plants, in a growing condition, may be shifted into pots one size larger, without disturbing the balls. Water occasionally—that is to say, only when absolutely necessary—after repotting; shade from the mid-day sun, if very powerful, but not otherwise: let them have the full benefit of warm and gentle showers, by removing the lights from the frame, and they will progress favourably.

Balsams.—These must be reported from time to time, as the pots they occupy become filled with roots; and as long as you require them to grow it will be necessary to pick off the bloom buds, for they cease to grow as soon as

they begin to flower. In our opinion these plants are handsome in any stage of growth, so long as the side branches are well developed, and as such we recommend their being allowed to bloom early. It will be necessary to water them once a day, as they absorb a good deal of moisture naturally, and for this reason it is advisable, when potting, to sink them low enough in the pots to allow of an inch for holding water, so that filling the pot up to the rim will be sufficient, without having to wait for it to run through. They may also be planted in the open ground, without dissturbing the ball, for decorative purposes, wherever required.

Bulbs.—Any of these needed for early flowering should be potted at once for that purpose, and placed in a cold frame, not only for the sake of protection, but also for the convenience of watering, and examining occasionally, with a view to ascertaining their condition as to soundness, etc. This plan is, in our opinion, preferable to burying the pots in the ordinary way, because the growth they then make is far more healthy than the shoots produced underground; and, besides, they can be more easily got at when required for forcing. The most desirable kinds for forcing early are Crocuses, Hyacinths, Narcissus, and Tulips, all of which may be grown three in a forty-eight sized pot, with the exception of Crocuses, six or eight of which would not be too many.

Capsicums and Chilies.—It is necessary to keep these growing in a hot-bed until they ripen their fruit, as the greater the heat in which these things are brought to maturity, the higher will be the flavour. They are also very showy plants, the latter especially, and when grown well, their green and red fruit look positively handsome.

Gockscombs.—These, to do well, must have plenty of heat, abundance of moisture, and be kept as near the glass as possible. They should be shifted into larger pots as soon as those they are in become filled with roots;

and when they have attained a tolerable size, they may be transferred to the greenhouse, or, in fact, wherever they are most wanted.

Cucumbers and Melons.—Fresh linings must be given to the beds whenever necessary, and when the frame becomes crowded all old branches should be removed, but as many of the young bearing shoots preserved as possible. When cutting away the old growth, search back for the most healthy shoots nearest the base. The general treatment of the plants should be always alike in many respects; such, for instance, as getting rid of useless wood, encouraging young bearing shoots, shading from the extreme heat of the sun. giving air in mild weather, and covering up at night if the wind be at all cold. Young shoots of any favourite sort should be pegged down to strike root, and when ready may be separated from the parent plants, for transferring to another hot-bed. As regards the latter, only three fruit should be allowed to a vine, unless the shoots are pegged down at the best joints, when more may be allowed, because the roots at the joints will enable the vine to support a greater number. Water the plants occasionally, but not before they need it; cover up at night, and do not remove the lights in windy weather till the sun is pretty powerful.

Pansies and Pinks.—These are always in demand when nicely grown in pots; the former especially so, because, by constantly taking off the side-shoots, you may always have them in a condition for either potting or planting out, as the case may be. Pinks, if piped at the proper time, root readily, and may then be potted off or planted out for blooming; but these, if in small pots, require watering frequently, because they very soon get dry, but until they are thoroughly so they do not need moisture. Keep the lights off the frame in mild weather, but cover up when it is the reverse, and by night.

Repairing Broken Glass, and Painting.—This season of the year is the most eligible for work of this description, because the weather is such that the frames are, comparatively speaking, at your service for that purpose; it being, as a rule, only necessary to keep them closed at night. In the daytime, therefore, remove every broken pane of glass and put in good ones; also examine the woodwork, and where any repairs are necessary do them at once; then remove all loose putty to make room for new, and paint both the interior and exterior of the structures, as they will be required next month for housing the various plants.

Routine.—The garden frame, either hot or cold, is, as we have said before, one of the most useful appendages to the amateur's garden, and especially so where there is no greenhouse. Everybody can manage to get an ordinary one, two, or three light frame, and many plants only require shelter from sun, rain, and cold winds. This, without artificial heat even, will, with ample covering, keep out frost—the worst enemy the amateur cultivator has to contend with.

Seedlings.—Any of these, choice enough to be worth the trouble, may be at once pricked out round the edges of pots, and be placed in a frame, to be shut up in cold, windy, or rainy weather, and protected or exposed, as considered necessary—an excess of either being dangerous.

Subjects of a Miscellaneous Character.—Many varieties of plants may be grown in frames with advantage, because they afford the greatest facilities for shading from sun, protecting from rain, and regulating the quantity of water that each plant should receive. Choice plants, too, intended to be seeded from, should always be placed in a frame if possible, because if a few of the best of any flowers are thus grown and sheltered for seed, they are

almost certain to produce seedlings superior to the parents, or at all events equal to them.

#### SEPTEMBER.

Auriculas.—These, if treated as advised last month, are already in their places and well established by this time, and must have as much air as possible, consistent with the weather. It is just possible that a few decayed leaves may require picking off, and important that all be examined to see that their drainage is complete, or otherwise it is impossible for them to flourish as they should do.

Bulbs.—For forcing these are indispensable; and all the various kinds, as Amarvllis, Campernels, Crocuses, Hyacinths, Jonquils, Tulips (early), and the like, should be procured as soon as possible for potting during the The practice of burying them and taking them up as they are wanted is very general; but, as we have before said, placing them in a frame is by far the best The great object is to keep them back till they are wanted for forcing, and a frame will do this, provided it is covered so as to exclude the light; all we require is to afford them the means of growing at the root, instead of growing in the bulb, and making long shoots at the expense of the bulb itself, thereby exhausting its strength. If, however, they are kept cool, moderately moist, shaded from sun, and placed in good soil, all the growth they make will be natural, and for a long time confined to the root itself. When removing them from the frame for forcing, select those which are inclined to shoot first; and when they all show symptoms of starting, remove the dark covering, or otherwise the shoots will be colourless, as is the case when they are buried. The great beauty in all plants of this descrip-

tion is a dwarf, healthy foliage and short stem, and this can never be realized when they have shot perhaps a couple of inches under any covering. The first batch to be forced may be put into the hot-bed the beginning of this month, to be followed by a second in three weeks' time, and thus a succession may be kept up for several months. The Vanthol Tulips, though not the best, are the earliest, and as there are five or six varieties that will all come in at once, they are decidedly worth growing. They should be potted three in a four-inch pot: Crocuses, half a dozen in the same sized Narcissus vary in size: the large kinds, which bloom in bunches, may be potted singly; the smaller sorts, which throw up only one or two blooms, may be three in a four-inch pot. Campernels and Jonquils may be three in a similar sized pot; and when it is considered that if they are left in a cold frame they will scarcely bloom before April, and some not till May, the advantage of getting some in flower in the early part of December, by forcing, will be self-evident.

Carnations and Picotees.—The layers that have rooted well may be at once taken off and potted in plain loam from rotted turves, or if this is not ready to hand, in a mixture of two-thirds maiden loam and one-third leaf mould. Let there be a pair of plants in each pot, placed close to the edge, and facing each other. Put them in a frame, give them a good watering, and close down the lights for a day or two.

Cauliflowers.—Room must be found in a frame for a few of these to stand over the winter. For this purpose they may be either potted or planted pretty close together at the bottom of the frame; the former is the best plan if you can spare the pots, as they can then be turned into the open ground, when the time comes round, without receiving a check.

Cinerarias.—Those in seed-pans may be potted off at

once, three in a four-inch pot, at equal distances round the edge. Any old plants of approved sorts may be parted, if not already done; and if they are, and have grown so as to touch each other, let them be shifted singly into three-inch pots at once.

Gucumbers and Melons.— New hot-beds may be made to begin by the time the others become exhausted, or you may add fresh linings to the old ones where they merely require a little more heat. If you pegged down some of the promising young shoots, as advised last month, they will be in a proper condition to start with. One great advantage in plants so raised is that you know your sort, and that is more than you can say of seedling plants always; for they will sometimes sport, be as careful as you may. Should you make any new beds, treat them as you did the others; and see that the plants in the old ones continue bearing until they can be replaced by more vigorous vines.

Geraniums.—Any choice sorts required for stock must be potted up at once from the beds and borders, and placed in a frame for that purpose.

Pansies and Pinks.—The former, intended for pot culture, must be potted singly in three-inch pots; and when you have taken off all the cuttings you want, trim them up neatly, and they will do for bedding out when the time comes round. The latter should be potted in the same kind of compost as Carnations. Four-inch pots will be large enough to hold a pair, and these, when ready, may also be placed in the frame.

**Polyanthuses and Primroses.**—If you intend growing any of these in pots, it is time they were placed in four-inch ones, and sheltered in a frame immediately afterwards.

Potting.—Almost all kinds of flowers and plants may be potted now, either for forcing or protecting in frames through the autumn and winter months; especially any now in the open ground. In every case water well after the shift, to settle the soil nicely about the roots. The following is a compost that will suit very nearly everything:—Turves from an old loamy pasture, cut three inches thick and laid in a heap to rot, and rubbed through a sieve that would pass a hazel-nut, one barrowful; peat earth full of fibre of a light spongy nature, such as is used for Heaths, a quarter of a barrowful; and cow-durg rotted into mould, a quarter of a barrowful. If the loam be friable and a little sandy, nothing else is requisite but to mix the materials well together, and sift through the loam sieve; if, however, the loam is inclined to adhesiveness, a little silver sand may be added to open the pores, but not more than a tenth of the whole bulk of loam.

Routine.—Frames are a kind of temporary refuge for anything and everything they will hold, previous to placing them in their respective winter quarters; but in all cases the lights must be taken off, pulled back, or tilted, whenever the weather is sufficiently fine to allow of its being done without risk.

Seedlings.—All these things in pots should be kept no longer exposed to the chances of frost; for a very slight one will frequently penetrate the sides of a pot, and do a great deal of harm in a very short time. Seedlings in pans, whether hardy or not, are safer in frames than out of doors after August, at the best of times; therefore pot up all young ones that could not stand the winter unprotected, and place them in frames until removed into the greenhouse or elsewhere.

Seed-Sowing:—Many cultivators consider that autumn is preferable to the spring for sowing such subjects as Auriculas and Polyanthus, and we consider so too, because we then get an earlier and stronger display of bloom, they having had the winter to perfect their growth. In sowing at that time, however, it will be necessary to place the pots

or pans containing the seed in the frame, not only for the purpose of protecting them from frost, but that they may be watered with greater facility, for when seeds are once sown they must never be permitted to get dry. Having once swelled and been allowed to get dry again, the chances are that they will not germinate; but if sown under favourable circumstances, with the soil damp and in proper order to set the seed swelling directly, they will come up at once, and produce nice stocky plants. In the case of delicate seeds, it is a very good plan to cover the surface of the soil in the pots or pans with damp moss, and not remove it till the seeds appear above ground.

**Subjects for Forcing.**—A frame must be devoted to these things, preparatory to their being taken to the hot-bed for that purpose; in fact, it is a safe place for all dwarf plants in pots that require heat by-and-by.

Verbenas.—Any choice varieties in the open ground should be potted up at once in pots just large enough to hold their roots, and, after being cut back to a suitable size, placed in a frame. Here they will soon produce plenty of cuttings, which may be taken off as soon as large enough, and struck for increase.

### OCTOBER.

Asparagus.—This month you may get a hot-bed ready for forcing a few roots of this vegetable, so that it may be in readiness for planting in November. The dung, if five feet in thickness, will settle down to four, which will not be too much, considering that it will have to heat a good thickness of soil; then, having procured the requisite number of three-year-old plants that have not been worked, start your bed the first week in next month. After you have finished

the hot-bed, put six inches of good loam and dung, well incorporated, over the dung, covering the entire surface both inside and outside the frame, which then put on; close the lights, and it will be ready for use.

Auriculas.—Very little water will be necessary for these just now, but at the same time they must not be allowed to flag. Remove yellow leaves; examine the drainage to see that it is perfect, and if defective, remedy it; give all the air you can, consistent with safety; shade from very hot sun; and close the frame on the windward side when it blows northerly or easterly. Be very careful of seedlings in pans, as, unless properly attended to, they will not make good plants.

Bulbous Roots.—These, if not already seen to, may be at once placed in a frame and covered up from the light for a time. They will be required very shortly for forcing, but they may remain in the dark until then. Crocuses, early Tulips, Hyacinths, Jonquils, Narcissus, etc., may be all treated alike, and on no account allowed to get dry at any time.

Camellias.—These may have precisely similar treatment to that recommended for Azaleas, etc., of which we shall speak further on.

Carnations and Picotees.—See that these are put into a frame at once, if you have not done so already, and while there do not give them too much wet, as they, like the Auricula, do not require it—in fact, cannot stand it. The lights should be opened whenever the weather is open and mild, but closed when it is the reverse.

**Cauliflowers.**—Prick out a few of these plants in frames to be protected through the winter, as they will not stand severe weather in the open ground.

Cucumbers and Melons.—New hot-beds may be made for the former, if required, and some of the healthiest

shoots of approved roots of last year may be layered, so as to make plants by the time the bed is ready for their reception. We have already told you how to make the bed, and therefore there will be no necessity to repeat the method. great advantages are to be gained by lavering: first, you will know them to be true; and, secondly, they will begin bearing sooner than plants raised from seed. You must be guided in a great measure by the condition of your old hot-beds as to the advisability of constructing new ones; that is to say, whether it would not be better to re-line those already at work, and let them go on for a bit longer, in preference to making new ones and waiting a while for the result. If you decide in favour of the latter plan, you will find ample instructions for doing so under the head of January. As it is too late for planting the latter now, your best plan will be to re-line the old bed so as to raise the temperature of it, unless a healthy shoot or two can be layered as in the case of the Cucumber, when it would then be like continuing the original plant; still, it is very doubtful whether the flavour of a Melon raised in the winter would be sufficiently good to be worth the trouble.

Pansies and Pinks.—The principal object in potting these is because they can then be more readily sheltered during inclement weather. They do not require much heat—in fact, none but what the cold frame will afford them—because they are not required to grow fast; but, as they are usually in small pots, and, as a rule, mostly small plants, a very slight frost would seriously injure, if it did not absolutely kill them. Both of them require frequent watering, and all the air that can be given with safety.

Polyanthuses and Primroses.—These, while in frames, must never go short of water, for if once permitted to get dry, they would very soon be attacked by the red spider. Examine the roots frequently, and where you find

they have filled their pots, shift them at once into others a size larger. For the purpose of shading them from the sun during the hottest part of the day, a mat will be found sufficient, but the lights must be tilted for the purpose of giving air, whenever the weather is at all warm.

Rhododendrons and Azaleas.—Such of these as have set their buds may be pruned so far as to remove any shoots that have no bloom buds, and are detrimental to the form of the plant. In selecting the plants, give the preference to those that were forced last year; but if compelled to resort to new ones, choose such as are full of bloom buds and moderate in size. As soon as you have trimmed them up to your own liking, give them a good watering, and shut them up in the cold frame, unless the weather be mild, when they may have all the air that can be given, as anything short of a frost will not hurt them, unless it be damp, which they cannot stand.

Roses.—Look over any that were forced last year and see if they require a shift, which they most likely will, and if they do, perform the operation at once. Then prune them carefully, making every allowance for the new growth, into a nice shape, removing at the time all weakly shoots and branches that grow inwards, as well as thinning them where too crowded; after which you may place them in the cold frame preparatory to removing them to the hot-bed for forcing.

Routine.—Everything needing protection must now be placed in its winter quarters, and for most things requiring protection there is nothing more suitable than the cold frame. In a word, whatever you have no room for in the greenhouse, must be consigned to the above shelter, in addition to those plants which may be said to be at home there. One thing, however, must not be overlooked, and that is the admission of air on all favourable occa-

sions. Watering is another duty which must not be neglected.

Rhubarb and Sea Kale.—The forcing of the former is so simple that you have merely to put a few roots close together in a spent hot-bed, cover them with an inch or two of soil, and they will produce well-flavoured sticks from Christmas to Midsummer. They would even do without any soil at all in any warm place, but where you require handsome produce in any quantity, the first plan is the best. The latter is mostly forced in pots made for the purpose, but a much more easy plan is to place a number of roots in a hot-bed, side by side, as close as they will go, and just cover the crowns with a little soil. In a very short time they will have made considerable growth, when they may be cut for use. They will require occasional watering, but only when dry, and then the water should be of the same temperature as the bed.

Subjects of a Miscellaneous Character.—Cinerarias, scarlet Geraniums, Verbenas, and other greenhouse plants must be protected in frames during frosty weather; and not only so, but the frames must be covered up likewise, for if once the plants get frozen it is a chance whether they ever recover.

Violets.—These may be kept in pots in the cold frame until wanted for forcing; but while there they must not be watered too frequently.

### NOVEMBER.

Asparagus.—As a rule the forcing of this vegetable is generally begun later in the season, but there is no reason why it should not be done now as well as at any time. A full description of the way to accomplish the work will be

found in the calendar for January, to which we refer our readers who do not know how to set about it. All we need say here is, that it will grow in any temperature above forty degrees, but in greater heat it would shoot more rapidly, without any particular management beyond that of watering, when necessary, with water the same temperature as the hot-bed, and cutting when sufficiently forward for the purpose.

Auriculas.—Of all plants these need the most care and attention, for they are very ticklish subjects. When we say "the most," we do not wish to infer that they require a great deal, but that what is necessary must on no account be neglected; that is to say, the January advice must be strictly observed from the day they are placed in the frame till the time they are taken out again. In other words, they must have plenty of air in favourable weather, abundance of light at all times, ample room to grow in, shade when the sun is very powerful, and water when necessary, but that will not be very often.

Carnations and Picotees.—Three things are necessary just now for these, namely, plenty of air in mild weather, sufficient water to prevent their actually flagging, and to be kept entirely free from damp at all times. For further particulars we refer you to the directions given in January.

Cinerarias.—These, although they will not bear the slightest frost, need as much air as can possibly be given; therefore it will be necessary to watch them narrowly, that you may take the first and every favourable opportunity to administer it. They must not, in fact, be covered close, except in very severe weather; and when it is necessary to shade them, which it will be occasionally, the lights must be tilted at all the four corners with bricks or flower-pots, that the air may have a free circulation underneath them.

Early Tulips.—If you intend to force any of these, the sooner you get them potted and placed in a cold frame the better, to remain there until taken to the hot-bed. We have already said that all they require for some time is watering occasionally. They are easily kept back, because it is not necessary to cover them against frost, and by substituting boards, or something of the kind, in lieu of glass, their growth will be retarded, and that is what is just now wanted. They will be making root at first, but it will be advisable to exclude sun until they begin to shoot upwards from their bulbs; and then they must have light, or they will grow up sickly, as most things do when covered.

Favourite Bulbs.—All the spring kinds, such as Crocuses, Fritillarias, Hyacinths, Narcissus, Snowdrops, etc., should be now in a cold frame, where the light can be excluded by covering with some material of a nature calculated to have that effect, until such time as it may be deemed advisable to remove them to the forcing frame. They should not be removed to the latter structure all at one time; on the contrary, we should recommend the first batch to be placed in the hot-bed at once, the second in a fortnight's time, and so on until the whole of them have been forced; but, commence when you will, there should be a sufficient number potted to keep up a succession until May at least.

French Beans.—These will force now as well as they would in January, and by getting them into the hot-bed at once you will have them so much earlier, which is an advantage where there is a great call for this vegetable. Three or four seeds should be sown in a six-inch pot, watered, and placed in the cold frame for a short time, previous to putting them in the hot-bed.

Fuchsias.—These can be hastened very considerably by forcing; and the same rule applies to them as it does to

other things, namely, to avoid sudden changes from cold to heat, and vice versâ. In fact, by adopting this method of culture, they may be got into bloom weeks earlier than their usual time, without drawing them up, and where they have begun their new growth, it may, and indeed should, be taken off and used as cuttings, if wanted; but taken off it must be, for if allowed to remain on the plant it would greatly tend to weaken it.

Pansies and Pinks.—These plants, when confined in pots, are far more tender than when cultivated in the open ground, because a frost that would take little or no effect upon them there, on account of its being unable to enter the ground sufficiently deep to hurt the roots, would very soon find its way through the sides of a pot. Nevertheless, the sides of a frame must be tilted in fine weather for the purpose of giving air, which they cannot do without for any length of time, and the plants must have water as soon as dry.

Polyanthuses and Primroses.—Examine these for slugs, and destroy all you catch, otherwise the plants will suffer greatly from their depredations. Give air by tilting the lights; a little sun; water, when they are dry, but not otherwise; and as much light as ever you can.

Roses.—These require unremitting attention; that is to say, you must begin forcing early, and go on very slowly, or they are sure to draw up weakly, and that will be fatal to them, for nothing looks worse than a host of sticks and ties, which they would require if such were the case. Like Geraniums, they almost require a frame to themselves, and if you can spare the room, should have it. When the green-fly is troublesome, and it frequently is, it can only be got rid of by fumigation with tobacco, and the sooner you apply the remedy the better; after which, syringe them well with clean water to dislodge any that may be only partially suffocated.

Rhododendrons and Azaleas.—These should both be taken into the frame, a few at a time, due regard being had to the number required, and the time at which they are wanted in bloom. Water when necessary, and give air at every favourable opportunity, by tilting the lights a trifle.

Rhubarb and Sea Kale.—The former is, in a general way, begun earlier in the season; but if you still require a supply, it is one of those things that can be forced at almost any time. That is to say, if the roots are merely thrown into a place where there is moderate heat, it will grow; but, of course, if you require handsome sticks, it will be necessary to take a little extra trouble; and, as "anything worth growing is worth growing well," we see no reason why you should not pay proper attention to its culture. Potting is the best plan to adopt; and having so treated a sufficient number of roots, put them into a frame, the temperature of which is not above forty degrees, and they will shoot well. higher temperature they will do better; therefore we should recommend the latter course. Much about the same treatment will do for the latter, and there is no necessity to repeat the instructions already given.

Routine.—Everything that requires temporary shelter, without heat, may be safely transferred to the cold frame for protection. Flowers of many kinds will be quite at home in such a structure; so, indeed, will Cauliflowers and several other vegetables; but Cauliflowers are the chief things to look to now, and they may be planted in the frame six inches apart—having first filled it with good loam and dung to within six inches of the glass—carefully watered in, and then they will require nothing but plenty of air, very little water, clearing of dead leaves, and protection from frost.

Small Salads.—The forcing of the various kinds, such as Radishes, Onions for drawing young, Lettuces, Endive,

and the like, may be commenced this month as well as at any time, provided there is a demand for it. All these things, however, must have as much air as can be given without lowering the heat of the bed, and water sufficient to prevent their becoming too dry.

### DECEMBER.

Asparagus.—A hot-bed may be made this month for the purpose of forcing this vegetable, in precisely the same manner as directed for Cucumbers, of which we treated in January; and when you have put on a three-inch layer of soil, and the heat is genial, procure a sufficient number of three-year-old roots, and place them on the surface, spreading out the roots, but putting the plants as close to each other as you can. Cover the roots with another three inches of soil, and when done, shut up the frame, only giving air to let the steam out. As soon as the heat has come to the surface, another inch or two of soil will be necessary for those who like a long, hard, uneatable stalk, but for others who look at Asparagus in its proper light—as a delicacy—no more soil is necessary, because the crowns of the root are already not less than a couple of inches below the surface.

Bulbs.—Pots of Campernels, early Tulips, Hyacinths, Jonquils, Narcissus, etc., may be brought into the greenhouse or elsewhere, for succession, or as a beginning, if you have only just thought about the matter. These will require a good deal of water, and as much air as can safely be given without the risk of a check, which would be fatal to them. They should be sent from the frame a few at a time, that the supply may be kept up for a considerable period; otherwise, if they all flower at once, the novelty

will be over before we have other things ready to succeed them.

Cucumbers and Melons. — These are forced in various ways, but in our opinion there is no better medium for them than the ordinary hot-bed, because it is within everybody's means, and the dung, when done with, is worth as much as when it was hot. Supposing you mean to commence at once—and there is no reason why you should not. provided the hot-bed is ready—your first business will be to procure plants, if possible, and place one under the centre of each light: but if you have to sow the seed, put a few in a pot, and place them in the hot-bed to germinate. As soon as up, pot them off singly in a three-inch pot, or a couple of plants in a four-inch pot; give them a little water, and replace them in the bed to establish themselves. as they have two good rough leaves, and the plants keep growing, pinch off the top of the shoot to encourage a side growth: and when a couple of side-shoots make their appearance, the plants will be ready to put into the frame. Now comes the question whether the same hot-bed will do to fruit them in. If the heat has declined, and most probably it will have done, it can easily be reinstated by removing some of the cold dung that projects beyond the frame, till you come to the warmer portion, and line it well with hot stable-dung, not less than two feet thick all round. This will tend to bring up the heat, which must never be less than fifty-eight degrees during the night, nor seventyfive by day. If the heat has declined a good deal when the plants are ready to go out, which is not very likely, keep it for other subjects, and put your Cucumbers into newly constructed beds. The Melons may have precisely the same treatment, with the exception that they require a greater amount of heat to ripen them.

French Beans.—These may be sown three or four in

a six-inch pot, and according to your requirements, so you must regulate the number of pots. This month is as good as any for sowing, provided you have not already done so; and when ready place them in the cold frame for a short time before putting them in the hot-bed. Water them whenever the soil gets dry, but not before, and give air whenever it can be administered without lowering the temperature of the bed.

Herbaceous Plants.—A considerable number of these force well, and as almost any flower is welcome out of season, there is every reason for growing them in this manner. The Dahlia can be as well bloomed in June as at any time; but this is regarded more as a garden flower than suitable for a house, and for this reason it is rarely forced. except for the purpose of propagation. The Dielytra spectabilis forces admirably, and is an elegant plant, both in itself and in bouquets. Stocks, of which we shall speak further on, and Mignonette force well, though annuals; but they are mostly got up and forwarded in very gentle heat. and ought not, properly, to be bloomed in a high temperature. As they are very apt to draw, they are chiefly sown in frames, in very slight hot-beds, and are perhaps better without heat at all; but as they must be treated according to the time they are wanted in flower, it is occasionally necessary to raise them in that manner. Pinks and Pansies will bear forwarding in this way; but, as we have already said enough about them, we need not further enlarge upon the subject. In fact, whatever it is desirable to produce early in the season can be forced by degrees, beginning with very little heat, and gradually raising the temperature.

Herbs.—We have said nothing about these; but, as they are occasionally required out of season, it is only right to inform our readers that such subjects as Fennel, Mint, and,

in fact, many other kinds, may be potted up out of the ground, and forced two months before their time, by placing them this month in an ordinary hot-bed.

Rhubarb and Sea Kale.—These may both be forced now in the same manner as we have recommended for Asparagus, except that the whole frame may be filled with leaves, and covered with boards in lieu of glass, for the latter. The former does not require—in short, it is better without—a dark, close covering, and therefore should have a frame to itself, in which there is sufficient heat to encourage speedy growth.

Roses.—We know of no flower that is more worthy of the gardener's skill than these; and taking into consideration the beautiful specimens that we come across from time to time, and many of them grown by amateurs, we consider we are as much indebted to them as to the professional gardener. It is, or should be, the aim of a gardener, professional or amateur, to give proof that, in the cultivation of these, sticks and ties are by no means necessary, provided the plant is reared, as it should be, in a manner calculated to ensure robust habit and undeniable strength; and to guarantee this the cultivator must begin by pruning carefully whatever plants he may intend to force, not leaving a single inch of weak wood. If standards, keep the head clear of any inward branches, let the pots be ample, and remember that the plants forced last season will force better this, if their after growth has been taken care of and their wood has been permitted to ripen thoroughly. Put these into the frame at once, after having cut back all the ripe wood to two eyes, unless you care to retain more to improve the form of the plant. Cut away every portion that is weak and unripe.

Routine.—We have now arrived at a time when no change whatever is necessary in the treatment of anything,

for a month at any rate. The three months in the winter can scarcely be calculated upon. They may be frosty, and you know what to do in that case. It may be wet, it may be fine, but the months are as likely to be one as the other. November may be frosty, December mild and fine, and January wet, or the weather may be reversed. All we can do under the circumstances is to take a cursory glance at the various departments, and give such hints as may turn out failures, or partially so, and our readers must take them for what they are worth. For instance, we may say, "Cover against frost," and there may be none; but it must be remembered that the most severe occasionally succeeds warm fine days. We may say, "Provide for fine weather," and it may be bad; or, "Look out for bad weather," and it may turn out exceedingly fine: still, we are not exactly to know to a day what the weather may turn out, and therefore, if we tell you to do a certain thing at a certain time and the weather prevents you, do it as soon as you can afterwards.

Small Salads.—These, of every description, may be sown and raised in hot-beds this month, or if you prefer it, and are in no immediate want of a succession, you may defer the work till next month.

Stocks.—The seed of these may be sown at any time, and, with protection, can be had in bloom from February to October. They may be sown now, to be kept in cold frames through the winter, and treated as follows:—Take a pan, sow the seed thinly and evenly all over the surface, cover them lightly, and set them in a hot-bed to germinate. As soon as they are large enough, prick them out into other pans, not more than an inch apart, and continue growing them in heat until they are an inch and a half high, when they may have a shift. They should then be potted off, three in a forty-eight-sized pot, either for flowering or planting in the beds and borders.

### CHAPTER IV.

# TOOLS.

THE KINDS REQUIRED, WITH FULL INSTRUCTIONS FOR USING THEM.

The Spade is an implement employed for digging and trenching; the former operation being the act of thrusting this tool into the ground as far as it will go, by pressing the iron blade with the left foot, and when the earth is lifted, by a twist of the right hand, turning it upside down. The latter operation is accomplished by first digging a row of spadefuls all along one end or side of the piece of land to be trenched, and removing the earth taken up, to the other end, then digging out a second row, which should be placed with the first. You will then be able to place the second top spits, or spadefuls, at the bottom of the ditch, if we may so term it, and the bottom spadefuls on the top of them, by which means the bottom soil is brought to the surface, and that which was the top. put at the bottom. When you have completed the work, fill the last opening with the earth taken out of the first. and it will be ready for cropping.

The Rake is a tool used for levelling newly turned up ground, burying seeds, removing rubbish, and the like, by a series of backwards and forward movements, and should

be done with a very light hand, otherwise the operator will do more harm than good.

The Hoe is of essential service for clearing away weeds, thinning the various crops, loosening the surface of the soil, drawing drills, earthing up, etc. It should be handled somewhat like a chopper, but not with any great force, bringing it towards you at each blow given, in a slanting position. Of this implement there should be at least two sizes—one with a long handle, for weeding, removing rubbish, and drawing drills, etc.; and a short-handled, small bladed one, for thinning crops.

The Dutch Hoe is requisite for loosening the surface soil, and also for cutting up weeds. This should be pushed before you at a depth of from two to three inches, so as to cut up and divide anything in the shape of wild plants, or such things as you are desirous of removing from the various beds and borders.

The Trowel will be found very useful in transplanting, as by the aid of this tool you will be able to remove small plants from one place to another without injuring their tender fibres; it will also be found very convenient for lifting small quantities of soil, when it is necessary to place a little fresh compost of any kind round about a particular plant.

The Spud is in form not unlike a chisel, with a long handle, and is very convenient for cutting up Docks and other deeply rooted weeds, removing suckers round fruit trees, and other things which cannot be reached by the hoe.

The Barrow is useful beyond description, for the removal of manure, litter, and so forth for the purpose of protection against frost, and a host of other things too numerous to mention, which cannot well be moved about by hand.

The Hand or Rubbish Basket is second to the

barrow, and answers a similar purpose on a small scale; that is to say, it will be found very convenient for collecting stones, leaves, and other objectionable matter that you may come across when sowing, or raking the beds and borders previous to and after planting.

The Shears are necessary adjuncts to every department of the garden, namely, for clipping Grass verges, regulating Quick and other edgings, and, in fact, for every purpose where the knife cannot be used without waste of time.

The Pruning-Knife, as its name indicates, is used for the purpose of regulating and keeping in order fruit and other trees and bushes, so that we can ensure a healthy and prolific return for the labour bestowed upon their management.

The Small Saw is frequently needed in grafting, where the stocks are of a description too tough for the pruning-knife—the surface being afterwards carefully smoothed with the latter instrument.

The Large Saw is required for the lopping of trees and branches which are too large for the small saw and the knife.

The Pick-Axe is a very useful tool for more purposes than one. In turning gravel walks, for instance, you cannot do very well without it; then, again, in removing heaps of stones or firmly imbedded rubbish, you will find it essential, for until the mass is loosened a bit, you will be unable to thrust the shovel into it; and as these operations must be performed from time to time, the easier they can be accomplished the better.

The Budding-Knife is used for budding, grafting, etc., and is positively indispensable in every well-regulated establishment. Its particular work could not well be performed with the ordinary garden knife, and should therefore never be attempted.

The Watering-Pot, of which you should have several sizes, is a positive necessity, for the purpose of giving moisture to plants both in and out of doors, and for want of which they would suffer very considerably in dry and hot weather. For indoor work a small one, with a three-feet spout and fine rose, will be found convenient, because you can reach plants on a back shelf; but for outdoor purposes a large one, with a short spout and rose, will answer every purpose.

The Line, as it is called, is necessary for drawing drills by, perfectly straight; for which purpose it must be stretched as tightly as possible. Then take the hoe, and with the corner of that implement draw the drill by the side of the line, when you will have a drill deep or shallow, according to the pressure you put upon it. It is also useful for planting straight rows of anything, and for cutting the edges of lawns and the like nice and even.

The Dibble, of which there are two sizes, is a tool we could not possibly dispense with. The small one, with a short spade handle, is useful for planting Cabbages, Lettuces, Stocks, and other plants. A special form of dibble, with a full-length spade handle, and a blade of iron projecting from the side, is employed for Potato planting, as by thrusting it down with your foot as far as the projecting iron will allow every hole made will be of a uniform depth.

The Turf-Cutter is an implement not unlike a cheese-cutter, with this difference, that it has a spade-like handle, for the convenience of using it without stooping. It will be found immensely handy in a garden where there is any Grass, for paring the edges of the lawn, and cutting turves for the purpose of repairs, etc.

The Garden Roller is likewise needed for keeping the surface of gravel walks nice and smooth, and rolling lawns; both of which should be frequently done in damp weather, that being the best time for performing the operation.

The Two-Pronged Fork is useful in a large garden, for turning over manure, making up hot-beds, shaking out dry litter, distributing the dressing spread over the ground previous to digging and trenching, and other purposes too numerous to mention.

The Garden Steps, a kind of double ladder, will be found of service in gathering fruit, training wall trees, or in doing anything that cannot be very well reached without some such aid.

The Three-Pronged Fork answers the purposes of a spade in many instances; but is most useful for taking up crops of Potatoes, Parsnips, Carrots, Horse-radish, and so forth, where it would be dangerous to employ the latter implement. It is also particularly adapted for loosening thesoil between shrubs and plants, as it is not so liable to injure the fibres of the roots, and has a better effect in breaking up the soil so loosened.

The Water Barrow will be found very convenient where you have to transport that commodity to any distance; it saves a deal of labour on account of its enabling the gardener to wheel at once a quantity sufficient to answer his purpose, instead of having to carry it in small quantities, as he would have to do with the watering-pot. If he choose, he can have a tap fixed to the barrel, and with a length of hose, with a rose on the end of it, attached to this, spread the water to a considerable distance, in a shower resembling moderate rain.

The Hammer is another essential tool, especially where you cultivate fruit on walls. Any ordinary hammer of sufficient weight to drive nails into walls and fences will do, but it should be reserved for use in the garden only.

The Nail-Bag is an adjunct to the hammer, and

should have four separate pockets for the hammer, nails, knife, and shreds. This should have a strap for buckling round your waist, which will enable you to mount the steps, and have your hands at liberty to prune or do anything you may find necessary for the benefit of the trees.

The Scythe is the last implement we need refer to, but that it is an essential one there can be no doubt. Without it we should be unable to keep the lawn in good order, and nothing has a worse appearance than a neglected Grass-plot. In fact, mowing is one of those operations that should be performed with the regularity of the clock, and early morning, when the dew is on the grass, is the time to do it; any other period of the day being unsuitable to the work.

#### CHAPTER V.

# BUDDING — GRAFTING — INARCHING— LAYERING—TAKING AND STRIKING CUTTINGS,

### Budding.

This is, or should be, performed when the leaves of plants have grown to their full size, and the bud is to be seen plump at the base of it. The relative nature of the bud and the stock is the same as in grafting, of which we shall speak presently. Make a slit in the bark of the stock, to reach from half an inch to an inch down the stock, according to the size of the plant; then make another short slit across. that you may easily raise the bark from the wood. take a very thin slice of the bark from the tree or plant containing the bud, a little below a leaf, and bring the knife out a trifle above it, so that you remove the leaf, and the bud at its base, with the small slice you have taken. You will perhaps have removed a small bit of the wood with the bark, which you must take carefully out with the sharp point of your knife and your thumb; then tuck the bark and bud under the bark of the stock, which you carefully bind over. letting the bud come at the part where the slits cross each other. No part of the stock should be allowed to grow after it is budded, except a little shoot or so above the head. just to draw the sap past it.

## Grafting in Various Ways.

Grafting is one of the most simple and vet most important operations in the garden, as by its means a worthless subject may be converted to a valuable tree—the Briar changed to the finest Rose, and the wild Crab to the best Apple. The operation is the splicing of a bit of the tree you want to the one that is useless. There are many ways of doing this. The plant to be grafted is called the STOCK, and the piece to be attached is the scion. The necessary conditions are—first, that both stock and scion shall be cut so that they shall fit close; second, that the bark of each shall meet on one side at least. When the size of the stock and graft are equal, a sloping cut in each, they may be tied together like a broken stick, the joint covered with prepared clay, or wax; or one may be split and the other cut like a wedge. The one is thrust into the other so that the barks must meet on one side; and if the stock is larger than the scion, the latter must be placed on one side to make it flush. When the stock is much larger than the scion, and the sloping cut is large and wide, the scion must be cut sloping and be tied close to one side. that the barks of the two may be even. It will not only unite, but in time the small one will spread and cover the stock. Another way of grafting small scions on large stocks is to cut an angular groove down the side of the stock, and cut the scion to fit in exactly, and bind it in. Another method is to split the stock, and cut the graft like a wedge and put it on one side, or, as some of the Continental nurserymen do with Orange trees, one on each side.

# Inarching (or Grafting by Inarch).

Is grafting a living branch on the stock. For this purpose select a branch on a potted plant, and bring it to the stock: cut, or rather shave, one side of both nearly half-way through, and so prop or fix the pot that the two flat sides may be bound together. These will unite sooner than a separate graft would, and with greater certainty, the graft being kept growing. The last method we shall refer to is that of assisting a graft, by cutting the scion long enough to allow the bottom end to go into a suspended bottle of It is not so certain as when growing on a plant, but if well managed, it will sustain the scion till it has been united. These hints will give as good an idea of the many ways of grafting as if we minutely described them all; for it matters not how you make a good fit and bring the barks to meet on one side, the grafts will unite; all you have to do afterwards is to cut away all the growing parts of the stock, and thus throw all its strength into the graft.

## Layering.

This is performed on many kinds of plants that do not strike root very readily from cuttings. It is done by bending a shoot or branch down under the surface of the soil, and pegging it there to prevent its springing up again, leaving the end exposed and turned upwards. Some plants will strike root very readily when so pegged underground, such as Laurels, Hollies, Rhododendrons, and shrubs in general; but the operation is greatly facilitated by intercepting the flow of sap in any way—for instance, by notching the branch or shoot half-way through, by twisting the shoot,

or, if it be of a tough nature, by bending it short, so as to break the texture. It strikes root at that place (provided there is a bud) where the sap is intercepted. The branch should not be pegged too deep, as the air is as necessary to it as moisture, and care must be taken always to keep the ground moist. The most simple way is to cut a slit, or to notch half-way through the wood, and to let this notch be just under a joint or leaf. After one season's growth the layer may be cut from the parent tree and transplanted.

## Taking and Striking Cuttings.

This is for the sake of propagating plants. Every plant contains the rudiments of every part of a new one, and nature disposes it to perfect itself; that is, to make good whatever may be its deficiencies. Therefore, pieces of certain plants, the smallest sprigs or slips, placed under proper conditions, will make roots for themselves and become complete plants. We are not, however, to suppose that the same treatment must be given to all cuttings. The circumstances under which one family of plants would form roots would cause another to die. One great stimulant to the growth of roots is bottom heat; that is to say, the soil should be a little warmer than the atmosphere. Another is the exclusion of air from the leaves. Generally speaking, however, the wood of one season's growth of all hard-wooded plants, with one joint above the surface and one joint under the surface. placed where there is bottom heat (that is, in a moderate hot-bed, or plunged in tan), covered with a hand-glass, and kept moderately moist, will strike. Many plants, such as Geraniums, Verbenas, Pansies, and other green or succulent subjects, will strike if planted in a common border in favourable weather.

### CHAPTER VI.

# POTTING AND PRUNING.

### Potting.

This, as a rule, when possible, should be done immediately after pruning, and when fresh growth is observable. is necessary, on account of its being unadvisable to check a plant more than it can be helped. The cutting down is a check, so is the shifting; therefore, in the two cases. we create an extra stimulus for a short time afterwards by confining them closer and affording them more warmth. When pruned or cut down, the energies in the stems, and that portion of the root which has not been mutilated, are instantly put forth in the production of new roots. While these are forming, or when they are formed, and the plant is kept warm for a time after shifting, new roots will be speedily produced by means of their agency, upon the same principle that roots are enticed, as it were, from a cutting of half-ripened wood, under a hand-glass or other temporary shelter. For this reason, all seedlings and all cuttings should be pricked out as soon as they are large enough to handle conveniently, or are sufficiently rooted to bear the shock, so to speak, of removal; otherwise, being of a young and tender nature, they would be not only very apt, but almost certain, to damp off if the surface of the soil became crusted. Unless the plants are

very thick in the seed-pan, there will be no necessity to disturb them: but when they are, it will be advisable to break the surface soil with a sharp-pointed stick, or something of the kind, for the purpose of giving a passage for the admission of air and water. A good drainage is of the first importance in potting, and this can be best ensured by placing a little green moss on the top of the crocks, previous to putting in the compost. Small pots are preferable to large ones where an early bloom is required. The best way to produce a rapid growth in anything is to put the soil in rather loosely; and when early blooming is desirable, your best plan will be to pack it firmly round the roots of the plant. In the case of plants that are likely to remain in their pots for some considerable time without being expected to flower, very light potting is advisable, as by watering and standing the compost will in course of time get firm of itself. Never shift a plant that is showing for bloom, as the check would tend to injure it; rather than do this, give it one or two waterings occasionally with liquid manure which will nourish it, and make up, to a certain extent, for the want of room

## Pruning.

Underground.—When young trees are taken from the ground for transplanting, the roots are, as a matter of course, bruised more or less. The injured portions should be smoothly pared with the knife, as if left unattended to they would decay to a certainty, and the health of the tree would suffer in consequence. In pruning the ends of the roots, make it a practice to draw the knife upwards, leaving the sloping surface on the under side, which will stimulate the young roots that will by-and-by start from the margin of the cut, to wend their way downwards according to nature.

Pruning the Tops.—A well-proportioned young tree will have roots extending as far in each direction from the foot, or base, of the stem as it is high, and upon a careful examination of the roots you will find that the entire surface of the subsoil is occupied or crowded with small fibres from the same. It is impossible, therefore, when digging, to avoid cutting and leaving the greater, or at all events a great. portion of the roots in the ground; and the tree, when replanted, is unable, for a time, to derive that nourishment from the soil necessary to feed all its leaves and branches. To counteract this mischief a portion of the branches must be removed for the purpose of restoring the deficiency caused by the temporary loss of roots. This is best accomplished by first of all thinning out all the weak branches. so as to leave a well-formed and even head, and afterwards cutting back a part of each of the one-year-old shoots. doing this it will be necessary to use great discrimination as to how much of the tops shall be cut away. Now, as the growth of new roots depends entirely on the assistance afforded by the new leaves, this must be seen to; that is to say, if the leaf-stems are too scanty, the roots will not extend freely; if they are too plentiful, the roots cannot obtain a requisite amount of nourishment for the foliage, and it will be weak and sickly. Those desirous of learning the truth of this statement can soon do so by cutting away more or less on different trees, and watching the result. Different trees require different treatment in this respect. As an example, we will take the Peach. This readily reproduces new shoots, therefore it may with safety be very freely cut back: that is, two-thirds of each previous season's shoot may be taken away without running any risk of injuring the tree.

The Proper Time for Pruning.—It has been said that early summer is most suitable, but I would rather ad-

vise my readers that any time between late autumn, after the leaves have dropped, until late spring, when the new buds appear, is far better for the health of the tree, and consequently its appearance and its yield during the summer and autumn months. The exact time must be regulated by the mildness (or otherwise) of the season and the hardiness of the tree. In some cases severe weather immediately after a liberal application of the knife will kill back the wounded boughs to a much greater extent than was either anticipated or desired, while it is certain that by leaving the operation till too late in the spring, the sap will have begun to rise, and the plant or tree will "bleed" from its wounds if anywhere else than in its smallest twigs. For certainty of success, I say, do your pruning in November, December, January, and February, in open weather.

### CHAPTER VII.

SEVENTY-ONE RECEIPTS FOR THE DE-STRUCTION OF VERMIN—CURE OF DIS-EASES IN PLANTS—MAKING LIQUID MANURES—MIXING COMPOSTS—ETC., ETC.

American (or Cotton) Blight.—Clean all the trees with a brush and Gishurst Compound, or suds made of soft soap; and if the first application is not effective, go over them a second time.

Ants.—When these insects are troublesome, lime-water poured freely into their nests or casts will cause them to depart, even if it does not kill them.

Aphides, or Plant-Lice.—For the destruction of these, syringe the leaves and stems with tobacco or lime water, or, what is still better, when it can be obtained, gastar water.

Asphalted Garden Walks.—These may be made as follows:—The place intended to be asphalted must be previously levelled; then put on it a coat of tar, and sift some road sand or coal ashes all over it very thickly; after this is dry, repeat the operation until you have got four coats of tar, and as many of coal ashes or road sand. You will then have an excellent, clean, dry, hard path, which will wear for years.

Birds.—These may be scared away from seed and

young plants by stretching lines or worsted (to which feathers have been tied at the distance of four or five inches apart) across the bed; and from fruit by similar scares being fixed on the extremity of the branches, so that the wind can keep them continually revolving or moving.

Black-Fly.—This destructive insect is a great pest to the growers of Cherry trees, and if not checked early will extend to the fruit. A very simple remedy is (the moment you perceive them) to mix some clayey soil with water, in such proportions as will form a thin puddle, into which dip the infested parts, or points, and leave them to dry in the sun. After the enclosed insects have perished, the clay may be readily washed off, or if left on it will do no harm.

Bleeding in Vines.—The usual practice of gardeners is to apply a hot iron to the bleeding surface, until it is charred, and then rub into the charred surface a paint made of newly burnt lime and grease; but we prefer Mr. Knight's plaster, which is more effectual, and is made thus: One-fourth of calcined oyster-shells, beaten to a fine powder in a mortar, and three-fourths of cheese, worked together until they form a good thick paste. This mixture is to be forced into the pores of the wood, where bleeding takes place, by means of the thumb and finger. A second application is occasionally requisite.

Caterpillars.—Get a quantity of Elder leaves, and boil them in as much water as will cover them, until the liquor becomes quite black; then clear and cool it, and to every gallon of this liquor add one gallon of tobacco-water. When the trees or plants are quite dry, drench them through the rose watering-pot, and in ten minutes, or thereabouts, the insects will all fall off.

Cats.—There is no protection against these animals but nets. Stretch a net a yard higher than the wall all round, leaving it a little bit baggy, and they will not attempt to get over it. Club in Broccoli.—Mix one gallon of fresh soot and one pound of saltpetre with water to the consistency of a good thick paint, and dip the roots of every plant in the mixture before inserting them in the ground. If the soil is hot and gravelly, a good dressing of marl will be of service, and the earth ought to be deepened in every way possible.

Cockroaches.—A toad or two would soon thin these vermin, or for want of these a basin half full of beer and sugar, with three or four pieces of wood placed sloping to the edge, so that the intruders may walk up, will entice them away from the plants.

Compost for Auriculas. — Two-thirds loam from rotted turves, and one-third cow-dung rotted to mould. Run this through a coarse sieve. It will be better for laying together a few months, but it may be used directly if wanted.

Compost for Balsams.—This plant requires a rich mixture of loam and vegetable mould in equal proportions. Pass the same through a coarse sieve, and it is ready for use.

Compost for Cactuses.—Mellow loam, intermixed with one-fourth leaf mould, one-eighth silver sand, and one-eighth bricks or potsherds broken up very fine.

Compost for Calceolarias.—The soil in which these grow best is a light rich loam, well drained—they being very impatient of damp in any form.

Compost for Carnations, Picotees, and Pinks.— Two-thirds loam from rotted turves, and one-third dung from the stable rotted to mould. Pass through a sieve that will let a filbert go through, and it is ready for use.

Compost for Chrysanthemums.—One-third clean loam, one-third leaf mould, and one-third silver sand. Mix well together, and it is ready for use.

Compost for Cinerarias.—One-half loam, one-fourth

peat, and one-fourth well-rotted hot-bed manure. Mix these together, pass through a coarse sieve, and it is ready for use.

Compost for Dahlias.—One-third leaf mould, one-third clean loam, and one-third silver sand. Mix well, and it is ready for use.

Compost for Fuchsias.—One-half mellow loam, one-fourth well-decomposed stable-dung, one-fourth leaf mould, with sufficient silver sand to make it porous.

Compost for Geraniums.—Good loam from rotted turves, two-thirds; and stable-dung rotted into mould, one-third. If, when mixed, this be found too stiff, a little clean silver sand or sandy peat, just enough to open the pores a trifle, may be added.

Compost for Hyacinths.—Take equal parts of leaf mould, silver sand, and well rotted cow-dung. Mix, and run through a coarse sieve previous to using.

Compost for Lilies.—Loam from rotted turves, cut thin and laid together, two-thirds; well-rotted stable-dung, one-sixth; turfy peat, one-sixth. Let the whole be well incorporated, and it is ready for use.

Compost for Pansies.—Take of decayed hot-bed manure, one part, and well-rotted turves from an old pasture, two parts; mix them thoroughly together, pass the whole through a coarse sieve, and it is ready for use.

Compost for Primulas.—Two-thirds turfy loam, and one-third silver sand. Mix well together, and it is ready for use.

Compost for Sweet Williams.—The best soil for the blooming plants is a sandy loam, well incorporated with decayed leaf mould and well-rotted stable-dung.

Earthworms.—Ten pounds of slacked lime to thirty gallons of water, stirred up well together, and allowed to stand for two or three days, will, when free from the sedi-

ment, and when administered through a fine rose, cause the vermin to appear above ground. They may then be picked up and destroyed by throwing them into a pail of salt and water.

Earwigs.—For entrapping these there is nothing better than stout Broad Bean stalks, cut into six-inch lengths and strewed about the beds. These should be examined early every morning, and the vermin blown into a pail of salt and water. An inverted flower-pot, with some moss or hay in it, placed on the top of a stick, is another good trap for them.

Flies.—These, which are very destructive to ripe fruit, especially wall fruit, may be prevented from carrying on their depredations by hanging up bottles half filled with beer and sugar near the trees. This, serving as a decoy, prevents their attacking the fruit.

Gooseberry Caterpillar.—Examine the under surface of the leaves of the bushes every morning in the season, and wash them with lime-water wherever you see signs of their eggs, applying it either forcibly with the syringe, or by hand wash the leaves with a sponge.

Gooseberry Grub.—Light a fire to windward on a windy day, and now and then make a dense smoke with damp weeds and a little sulphur. Syringe with lime-water, and clean water afterwards, which will entirely rid the bushes of these vermin.

Grass: how to Lay it.—To lay down turves you must first of all dig the ground all over, and level it, and if you can get a heavy roller, roll it well. Every turf should be three feet long and one foot wide. Lay them very close, edge to edge, and beat them down even.

Green-Fly.—For the destruction of this pest, fumigation with tobacco, and afterwards syringing the plants so treated with clean water. It is a certain remedy. Grub in Carrots.—The only thing you can do is to make some strong lime-water, add to it as much soot as will make it into a thin paint, and water the crop with this the moment maggots appear. The soot mixture is so stimulating a manure that it should always be used to increase the weight of the crop. House-slops mixed with lime and soot would be still more powerful, both to destroy maggot and improve the plant; but, unless rain follow immediately, it would be advisable to drench the ground with pure water the day after application.

Guano as a Top Dressing.—Guano, when used in this manner, should, as a rule, be mixed with six times its weight of dry earth, and scattered thinly and evenly over the surface. It is best applied when there is a likelihood of rain falling soon after it is put on, as then there is less danger of its ammonia being driven off and wasted by the action of wind and sun, instead of being carried down into the soil by the rain and rendered immediately available to the roots of the plants. The quantity to be used depends on the nature of the soil, its richness or poorness, and the character of the crop. In soils of a hot, dry nature, less should be used than in those of a medium or heavy texture, and it is self-evident that with guano, as with all other manures, less will be needed where the soil is already rich than where it is poor. Onions and kitchen garden crops grown for their leaves, such as Cabbages, etc., may have as much as three pounds and a half per rod, or one ounce and three-quarters per square vard; but if "pointed in" previous to planting, it should be so mixed with the soil that it will not come in contact with the roots of the plants in a crude state. One ounce per square yard will form a safe and highly beneficial dressing to all kitchen garden crops, as well as to Grass lawns, the greenness and vigour of which it will greatly improve if applied (mixed with fine soil) in moist weather in May and July. To fruit trees it is best given when growth is active, and it is better to give two applications than exceed the above rate. Flowering plants are most benefited by it when their flower-buds are expanding; in their case, when grown in pots, a pinch between the finger and thumb will be sufficient.

Guano as a Liquid Manure.—For plants in the open ground, one ounce to a gallon of water is sufficient; for pot plants, half an ounce to the gallon. At this rate it may be given to all growing plants with great advantage once a week. Some recommend double and even four times the above rate, and, to certain plants such strong doses may not prove injurious; but a frequent dose is safer and in every way preferable. Never apply guano, either as a solid or liquid manure, when a plant is at rest.

A Hot Bed for Seeds.—Make your dung bed two feet thick, the size you want it. Cover with six inches of soil; and you may raise all your seedlings under hand-glasses; but a box and light will be better.

Ink for Zinc Labels.—Take of verdigris one drachm, of sal ammoniac one drachm, and of lamp-black half a drachm. Mix these together with ten drachms of water, and they will form an indelible ink not to be surpassed, if equalled.

A Liquid Manure for any Plant.—Stir half a peck of horse droppings into ten gallons of water two or three times before using, and then allow it to settle. The clear liquid only should be administered through a rose watering-pot.

Liquid Manure for Chrysanthemums.—A good spadeful of rotten stable-dung, divested of litter, thrown into six gallons of water and well stirred, will be found very invigorating. The clear liquid, as in the former case, should be given at every third watering.

Liquid Manure for Roses, etc.—For these, the very best stimulant is two pounds of guano to ten gallons of water. For gross-feeding shrubs, either in the open ground or in pots for show, a like proportion will be necessary. For Geraniums, Calceolarias, Achimenes, and similar plants, half an ounce of guano to a gallon of water will be quite strong enough.

Mealy Bug.—Take two pounds of soft soap, two pounds of flour of sulphur, one pound of roll tobacco, half a gill of oil of turpentine, and two ounces of nux vomica (the latter in powder). The soft soap and sulphur should be mixed together in warm water in a large vessel, and stirred till dissolved. The roll tobacco must be cut, untwisted, and boiled by itself for an hour and a half in a saucepan, keeping on the lid; then strain it, and add the liquor to the sulphur and soft soap, then add the nux vomica, and, lastly, the oil of turpentine. This should then be applied with a painter's brush to the plants infested.

Mice.—Arsenic, oatmeal, and dripping mixed together, formed into a paste, and laid about in convenient places (out of the reach of domestic animals, etc.) for them to eat, will very soon kill them.

Mildew.—This disease, the worst enemy to plants, is caused by damp and want of air. The plants may get over it by turning them out, and if not they must be dusted with sulphur.

Mildew in Cucumbers.—This arises from insufficient bottom heat, or watering them with cold water. The best cure for this is to wash the diseased parts with a mixture of soap-suds and sulphur, or a decoction of Elder leaves; after which an inch and a half of fresh mould should be put over the surface of the bed. The bottom heat should be raised to about eighty degrees. If this is done immediately it is observed, the plants will very soon grow out of the disease.

Mildew in Grapes.—The best preventive against this disease is to keep the Vines subject to it occasionally syringed with a decoction of Elder leaves, which will prevent the fungus growing on them. It is also a certain cure in the case of those already infested.

Moles.—The green leaves of the common Elder placed in their subterranean paths will drive them away, as they have a very strong antipathy to the smell of the same.

Moss on Lawns.—The only way to kill this is to water it with a weak solution of ammoniacal liquid. One gallon of liquor is sufficient to mix with four gallons of water, and this will have to be distributed by means of a rose watering-pot. This will cause the Grass to look brown afterwards for a while, but it will soon recover its verdure. Another way is to procure some very fine siftings of coal ashes, and distribute them all over the parts where moss abounds. It will only be requisite to sow very thinly, and if done just before a shower of rain, so much the better, as the rain will wash it in. This will kill the moss without injuring the Grass.

Night-Soil.—Ten parts of any kind of earth to one of night-soil is the proportion to be used; mix well, and turn it over frequently. If you wish to deodorize it, a very small quantity of lime will have that effect.

Pine-Apple Bug.—For the destruction of this pest, wash well with soft soap and warm water; and afterwards syringe the plants thoroughly with clean tepid water, to clear them of what few vermin may have escaped the rubbing.

Poultry-Dung as a Liquid Manure.—This being very powerful, a quarter of a peck should be dissolved in ten gallons of water, and should then only be used for one watering in four.

Poultry-Dung as a Dry Compost.—This should be mixed with ten times its bulk of light soil or sand, and laid

by for a few weeks. It is a valuable compost. If used raw it is injurious.

Putty for Hot-Houses.—Putty for this purpose is made with whiting, pounded down, sifted very fine, and mixed with boiled linseed oil, making it into dough as the bakers do their bread. The more the dough of putty is worked the better it will be, and it should be at least ten days old before it is used; in that time a large lump of it will slightly ferment, which is necessary to give it the proper adhesive power. When this soft putty, as it is termed, is allowed to dry thoroughly before it is painted over, it will last as long as the hardest white-lead putty, and at the end of twenty years be soft enough to cut away with your knife, which is very handy where repairs have to be made.

Preserving Dahlia Roots.—There is only one way, and that is to take them up after having cut off the stem to within six inches of the crown, turn them upside down so as to permit the sap to drain out, and then hang them up in a shed, outhouse, or anywhere else where frost cannot reach them. The shrivelling and drying is not at all objectionable; decay is what you have to fear, and so long as you keep that away, all will go well.

Puddling for Roots, Trees, Shrubs, etc.—This is formed of three pounds of garden soil, one ounce of salt, two ounces of soot, and one gallon of water. Any quantity may be made, provided you keep to the proportions.

Red Spider.—Take one gallon of tobacco-water, two pounds of flour of sulphur, and as much quicklime as will make it as thick as whitewash, and with this wash your pits, frames, or houses inside; for the mixture, when the sun is on it, will form an atmosphere inside that no insect can live in.

Rose Maggot.—These insects, which destroy the buds, are from eggs laid in them as soon as they are formed, and before they are out of the foliage. There is no cure for it,

save that of picking off the bud, as the egg is hatched and the injury done before the bud is half grown.

Rusting, to Prevent.—The best way to prevent iron garden tools rusting is to lay them for a few minutes in a solution of soda. This will keep them entirely free from this mischief for a long time, even if exposed continually to a moist atmosphere.

Scale.—It is little or no use washing for this insect unless you use a wash that will kill. Gishurst Compound will clear the plant, and the moisture remaining on the plant will prevent a fresh attack. The day after you have used the compound, syringe the plant well with clear water; if the first application is not sufficient, wash it again and syringe the next morning.

Sewage.—In applying accumulated sewage, you must put five times its quantity of water, or you will otherwise burn up your crops.

Slugs.—A very effective method for the capture of these is to lay Cabbage or Lettuce leaves near their haunts overnight, and examine them early on the following morning, when you will find many adhering to the under surface of them. They must be shaken off into a pail of salt and water.

**Snails.**—These are particularly fond of bran; and if a little is spread over the ground, and covered over with something of a light nature, that they can lift, they will congregate under it, and then all you have to do is to catch and kill them.

"Spot" in Geraniums.—This is caused by the plants being overcrowded and over-watered; but a remedy will be found in the following mixture, if applied through a syringe:—One teaspoonful of Condy's disinfecting fluid to a quart of water; after doing this a few times, the disease invariably leaves the plant. We certainly have

found, on using the remedy, that the new foliage becomes free from spots, and the soil restored to its original purity.

Sulphate of Ammonia as a Liquid Manure.— In applying this it has to be dissolved in water in the proportion of half an ounce to the gallon. Water your plants with it every fourth time; that is, three times with plain water to one of the solution of ammonia.

Thrip.—Syringe with tobacco-water with a little sulphur added, or with a decoction of Elder-water. Either of these repeated a few times will clear plants of this pest.

Transparent Coverings for Frames, etc.—Transparent waterpoof coverings for pits and frames may be made of cheap, thin calico, covered with a composition made of three parts pale linseed oil, one ounce of sugar of lead, and four ounces of white resin. The sugar of lead to be ground with a small portion of the oil, then add the remainder of the oil; the resin should be then put with it, the whole mixed, gently warmed, and stirred till the ingredients are thoroughly incorporated with each other. The material to be covered is to be stretched and tacked to a frame or to the floor, and the mixture laid on with a large brush. The next day it will be dry, and may be rolled up, or applied to its use as a covering to frames and pits. The best way is to put it on a roller.

Turnip Fly.—Half an ounce of sulphur mixed with a pound of Turnip seed prevents the ravages of the fly. The experiment is easy, and has not been known to fail. Another equally certain cure is to sprinkle some wood ashes on the crop while the dew is on it.

Wash for Peach Trees.—This should be made as follows:—Take two pounds of soft soap, two pounds of flour of sulphur, one pound of roll tobacco, and three ounces of nux vomica, in powder. The tobacco should be boiled well for an hour and a half, then strained, and the other

ingredients mixed with the liquor, and as much water added to it as will make it five gallons. This should be laid on with a brush, rubbing it well into the crevices of the bark.

Wasps.—The directions given for the prevention of the mischief to fruit by flies equally apply to these, and therefore there is no necessity for repeating them.

Watering very Small Seeds, the Best Method of.

—The easiest, safest, and best method of giving moisture to such seeds as are small in themselves, and therefore lightly covered, is to dip a clothes-brush in the water, hold the hairs upwards, and by drawing the hand towards you over the hairs, it sends off a shower so light that it does not disturb the surface in the least.

Waterproof Cloth.—This may be prepared thus:—Procure saturated solution of sugar of lead and alum, in equal proportions, and immerse the cloth in the liquid for a few hours. On withdrawing it and allowing it to dry, it will be found impervious to rain. The cloth should, previous to being used, be hot-pressed. This will be found very useful as an awning for such things as require shelter from wet.

Wireworms.—Soot is a very good remedy to apply, but slices of Carrot or Potato placed just below the surface of the soil, near their haunts, is better still. These must be taken up every now and then, cleared of the vermin, and returned again.

Wood, how to Preserve.—A very effective solution for the preservation of wood may be made as follows:—Mix at the rate of five pounds of chloride of zinc to twenty-five gallons of water. This is the very best solution to steep wood in, to prevent the dry rot—even preferable to kyanizing it.

Woodlice.—These vermin, in frames, may be destroyed in the following manner:—Press the soil all round the frame.

and then pour boiling water where you have pressed. It is a certain cure. The same pest, in a greenhouse or conservatory, may be got rid of by shutting up a tomtit or two, or by keeping one or two toads in the house. A very good trap may be set for them, thus:—Take a boiled Potato, and wrap it up in some dry hay, and put it in a flower-pot. Place this in one corner of your frame, or wherever woodlice abound, and they will congregate in it in great numbers. It should be examined every morning, and the vermin shaken out into boiling water. Another way is to keep some dry hay between two ordinary paving tiles; when examined, once or twice a day, the insects which have congregated may either be scalded or crushed. By so doing, their numbers will very soon be materially decreased.

Worms in Pots.—The best way to drive worms out of pots is to securely cork up all the drainage holes, and then flood them for several hours with clear lime water. They cannot stand this.

# CHAPTER VIII.

# SELECT LISTS OF A FEW CHOICE FLOWERS, PLANTS, FRUITS, AND SEEDS.

THESE lists have been compiled with great care, and with a view to supply a want long felt by amateurs, as to the best kinds of plants, flowers, fruits, and seeds, suitable for cultivation in gardens of limited extent. We could name scores more, equally good, but our object is to save amateurs the trouble of searching amongst hundreds for, perhaps, only half a dozen really good things. Our selection may be looked upon as a trustworthy guide, from which anything may be chosen at random, with the full assurance that everything enumerated is of the best description.

# GREENHOUSE PLANTS.

A Few Useful Kinds.—Abutilon venosum, Acacia armata, Acrophyllum venosum, Aphelexis grandiflora, Boronia Drummondii, Bouvardia candidissima, Brachysema acuminata, Brugmansia arborea, Chorozema Henchmanii, Cyclamen persicum, Cytisus Atleeana, Daphne fortunei, Dracophyllum gracile, Epacris campanulata, Hydrangea japonica, Pimelea Hendersonii, Veronica Andersonii variegata, Yucca aloæfolia variegata.

Climbers.—Brachysema acuminatum, Jasminum grandiflorum, Maurandya Barclayana, Mimosa prostrata, Passiflora cærulea racemosa, Tacsonia insignis.

Ferns.—Adiantum assimile, Adiantum cuneatum, Asplenium bulbiferum, Campyloneurum phyllitidis, Davallia canariensis, Humata pedata, Platyloma falcata, Pteris argyrœa.

**Ericas (Heaths).**—Albida, Bergiana, Conspicua, Depressa, Eximea, Formosa alba, Hyemalis, Mutabilis, Pulverulenta, Refulgens, Splendens, Tricolor.

## PLANTS FOR PARTICULAR PURPOSES.

Aquatic Plants.—Caltha palustris, Cerastium aquaticum, Iris pseudacorus, Polygonum amphibium, Ranunculus aquatilis, Nasturtium aquaticum.

Climbers.—Clematis grandiflora, Clematis Sieboldii, Cobæa scandens, Eccremocarpus scabra, Everlasting Pea, Honeysuckle, English Ivy, Irish Ivy, Variegated Ivy, White Jasmine, Jasminum nudiflorum (yellow), Passion Flower, Virginian Creeper, Wistaria sinensis.

Variegated Foliage Plants. — Crassula Cooperii, Echeveria Californica, Kleinia tomentosa, Pachyphiton bracteosum, Sedum glaucum, Sempervivum heterotrichum.

Edging Plants.—Alyssum, Arabis, Box, Campanula floribunda, Cerastiums, Daisies, Euonymus radicans, London Pride, Pyrethrum (Golden Feather), Saxifraga hypnoides, Sedum pulchellum, Thymus montana alba.

Plants for Growing under Trees.—Aucuba japonica, Berberis aquifolia, Ivy, Trailing St. John's Wort, Vinca major, Vinca minor.

Plants for Rockeries and Back Yards in London.—Alyssum saxatile, Arabis albida, Calandrinia umbellata, Cerastium grandiflorum, Dianthus deltoides, Gaultheria procumbens, Gentiana acaulis, Hepatica triloba, Saponaria ocymoides, Saxifraga longifolia, Sedum spectabile, Semperviyum montanum.

#### ANNUALS.

Hardy Varieties.—Campanula Loreii, white and blue, 12 inches; Candytuft, red, white, purple, 12 inches; Catchfly (Lobel's), red and white, 18 inches; Collinsia bicolor, lilac and white, 12 inches; Convolvulus major, various colours, climber; Convolvulus minor, mixed colours, 18 inches; Coreopsis coronata, spotted yellow, 24 inches; Coreopsis tinctoria, yellow and brown, 36 inches; Erysimum Perowskianum, golden orange, 9 inches; Larkspur (Dwarf Double German), mixed colours, 12 inches; Lupinus nanus, blue, 6 inches; Mignonette, buff, 9 inches; Nemophila insignis, blue, 6 inches; Sweet Pea, various colours, climber; Virginian Stock, pink and white, 6 inches.

Half-Hardy and Tender Varieties. — Abronia umbellata, lilac,

creeper; Acroclineum roseum, rose, 12 inches; Acroclineum album, white, 12 inches; Asters, various colours, 6 to 24 inches; Balsams, (Glenny's Improved), various colours, 18 inches; Clintonia pulchella, blue, yellow, and white, 6 inches; Cockscomb, red, 12 inches; Imperial Indian Pink, various colours, 12 inches; Marigold (African), orange and lemon, 24 inches; Marigold (French), striped orange and brown, 12 inches; New Everlasting Flower, mixed colours, 24 inches; Nasturtium major, various colours, climber; Nasturtium minor, mixed colours, 12 inches; Phlox Drummondii, various colours, 12 inches; Schizopetalon Walkerii, white, 6 inches; Stocks (Glenny's Improved Newest Giant or Tree Ten-week), mixed colours, 18 inches; Thunbergia, orange, white, yellow, buff, climber; Tropæolum canariensis, yellow, climber; Zinnia elegans (Double), various colours, 24 inches.

# BIENNIALS AND PERENNIALS.

Hardy Varieties. - Antirrhinum, striped and blotched, 24 inches: Auricula (Show), various colours, 6 inches; Campanula pyramidalis, pale blue, 36 inches; Canterbury Bell (Double), mixed colours, 24 inches: Carnation, various colours, 18 inches: Chrysanthemum (Show). mixed colours, 36 inches; Chrysanthemum (Pompone), various colours, 24 inches; Daisy (Double), mixed colours, 6 inches; Delphinium formosum, blue and white, 24 inches: Digitalis (Foxglove), various colours, 36 inches; Everlasting Pea, pink and white, climber; Hollyhock (Show), various colours, 6 feet; Linum grandiflorum coccineum, crimson, 12 inches; Lobelia speciosa, dark blue, 6 inches; Marvel of Peru, various colours, 24 inches: Pansy (Show), mixed colours, 6 inches: Pansy (Belgian), various colours, 6 inches; Phlox, mixed colours, 36 inches; Picotees (Show), various colours, 24 inches; Pink (Show), various colours, 12 inches; Polyanthus (Show), mixed colours, 6 inches; Sweet William (Hunt's), various colours, 18 inches; Wallflower (English), mixed colours, 18 inches; Wallflower (Double German). various colours, 18 inches.

Tender Varieties.—Calceolaria (Show), mixed colours, 24 inches; Calceolaria (Bedding), yellow and brown, 18 inches; Cineraria (Show), various colours, 24 inches; Dahlia (Show), mixed colours, 4 feet; Geranium (Show), various colours, 24 inches; Geranium (Bedding), mixed colours, 24 inches; Heliotrope, various shades of lilac and purple, 18 inches; Lophospermum scandens, rosy purple, climber; Mimulus (finest spotted), various colours, 12 inches; Mimulus moschatus (Musk),

yellow, 6 inches; Petunia (Show), various colours, 18 inches; Petunia (Double), mixed colours, 18 inches; Primula sinensis, various colours, 9 inches; Verbena (Show), mixed colours, 12 inches.

## ACHIMENES.

- 1. Ambroise Verschaffelt.-White, with radiating crimson eye.
- 2. Belmontiensis.—Reddish violet, dotted with crimson.
- 3. Carl Woolfarth.-Large crimson.
- 4. Carminata splendens.—Carmine, rose eye, spotted orange.
- 5. Estelle.—Rosy purple, white blotch on lower lip.
- 6. Francois Cardinaux.—Rosy purple.
- 7. Longiflora major.-Violet blue.
- 8. Margaritæ.-Pure white.
- 9. Meteor.—Rosy scarlet, flushed with purple.
- 10. Sir Trebern Thomas.-Rich crimson.

## AMARYLLIS.

- I. Amaryllis Aulica.—Scarlet and green.
- 2. ,, crocea grandiflora.—Vermilion.
- 3. ,, superba.—Scarlet.
- 4. ,, Johnsonii.—Scarlet and white.
- 5. ,, purpurea.—Scarlet.
- 6. ,, vittata.—Striped.

## ANTIRRHINUMS.

- 1. Othello.-Velvet maroon, white neck.
- 2. Silvio. Amber and yellow.
- 3. Crimson King.—Crimson maroon, amber neck.
- 4. Carnation.—White, purple flake.
- 5. Queen of Whites .- Pure white.
- 6. Shirley Hibberd .- Brilliant orange scarlet.
- 7. Mr. A. Robins .- Yellow, striped crimson.
- 8. Miss Cooper.—Lilac, flaked crimson.
- 9. Hendersonii.-White, rosy violet belt.
- 10. Little Queen.—Tube white, lobes dark maroon, yellow mouth.
- 11. Little Pet.—Sulphur, striped and mottled crimson, gold mouth.
- 12. Little Harry.—Fine lemon self.

## AURICULAS.

- 1. George Lightbody.—Grey edged.
- 2. Robert Traill .- Grey edged.
- 3. Conqueror of Europe.—Grey edged.
- 4. Prince of Green Edges.—Green edged.
- 5. Colonel Taylor.—Green edged.
- 6. White Rival .- White edged.
- 7. Arabella.-White edged.
- 8. True Briton.—White edged.
- o. Pisarro.-Self.
- 10. Charles J. Perry.—Self.
- 11. Meteor Flag .- Self.
- 12. Metropolitan .- Self.

#### AZALRAS INDICA.

- 1. Admiration.—Pure white, striped with carmine.
- 2. Alba lutescens.—White, spotted, and striped with red.
- 3. Barolayana.-White, striped with violet.
- 4. Beauty of Europe.—True pink, striped with carmine.
- 5. Bernard Andrea.-Dark violet purple.
- 6. Brilliant .- Scarlet.
- 7. Chelsonii.—Orange scarlet.
- 8. Criterion.—Salmon pink, edged with white.
- 9. Dr. Livingstone.—Bright lively rose.
- 10. Duchesse Adelaide de Nassau.—Red, shaded with violet.
- 11. Etendard de Flandre.-White, flaked with scarlet.
- 12. Eulalie. Blush, richly spotted with carmine.
- 13. La Paix.—Pale lilac.
- 14. Leopold I.—Beautiful dark rose, with deep red spots on the upper petals.
  - 15. Mrs. Turner.—Bright pink, edged with pure white.
- 16. Stella.—Bright orange scarlet, with a rich violet stain on the top petals, profusely spotted with lake.
  - 17. Thusnelde.—Very bright rose, with carmine centre.
  - 18. Tricolor.—White, richly flaked and spotted with red.

## BEGONIAS.

- 1. Boliviensis.—Foliage light green, flowers bright glossy red.
- Octopetala.—Dark green leaves, flowers white, with the reverse of petals bright rosy carmine.

- 3. Vivicans. Brilliant orange scarlet, bell-shaped flowers.
- 4. La Baronne Ruby.-Foliage light, flowers deep crimson.
- 5. Jules Janin.—Beautiful variety, deep clear crimson.
- 6. Pearcei.—Flowers large, bright yellow.

# CALADIUMS.

- Barragruinii.—Large leaves, central parts red, shaded border of green; 30 inches.
- 2. Belleymei.—Green spots and network on a white ground, with a tinge of red on the mid rib; 34 inches.
  - 3. Chantinii.—Brilliant crimson centre; 32 inches.
  - 4. Cupreum.—Prevailing colour a reddish copper; 15 inches.
  - 5. Devosianum.—Bright green leaves, blotched with pink and white.
  - 6. Neumanii.—Deep shining green, with fantastic markings of rose.

## CALCEOLARIAS.

# Show Varieties.

- 1. Albira.—Yellow, with brown spots.
- 2. Ajax.-Brownish red, yellow margin.
- 3. Bicolor.—Yellow ground, changing to white, rosy lilac blotch.
- 4. Desirable.—Bright crimson.
- 5. Hebe.—Yellow, dotted with bronzy red.
- 6. King of Sardinia.—Rich crimson.
- 7. Lady Franklin.-Buff, yellow blotch on the top.
- 8. Lady Palmerston.-Yellow, finely spotted with red.
- 9. Rubens.—Rich gold, shaded bronze blotch.
- 10. Sir Colin Campbell.—Rich crimson.

# Bedding Varieties.

- I. Aurea floribunda.—Yellow.
- Golden Gem.—Deep yellow.
- 3. Victoria.—Very dark maroon.
- 4. Sparkles.—Crimson, gold cup.
- 5. Garibaldi.—Deep rich crimson.
- 6. Ambassador.—Scarlet brown, spotted maroon.

## CAMELLIAS.

- I. Alba plena.—White.
- 2. Alexina.—Blush, delicately marked rose.

- 3. Albertus.—Carnation striped.
- 4. Chandlerii.—Crimson red, mottled white.
- 5. Countees of Orkney.-White, striped carmine.
- o. Collettii. Deep red, white blotches,
- 7. De la Reine.—Snow white, mottled and striped.
- 8. Hendersonii. Shaded rose.
- o. Mathotiana.-Crimson.
- 10. Montironi .- Yellowish white.
- 11. Storyi.-Rosy pink.
- 12. Teutonia.—Rosy pink, shaded and striped white.

# CARNATIONS.

# Show Varieties.

- I. Sybil.—Rose flake.
- 2. Rose of Stapleford.—Rosy flake.
- 3. Lady Peel.-Purple flake.
- 4. Earl Stamford .- Purple flake.
- 5. J. Cheetham. Scarlet flake.
- 6. Christopher Sly.—Scarlet flake.
- 7. Duke of Grafton.—Scarlet bizarres.
- 8. Fanny Gardiner.—Scarlet bizarres.
- 9. Lord Milton.—Crimson bizarres.
- 10. Sarah Payne.-Pink and purple bizarres.
- 11. Squire Meynell.—Pink and purple bizarres.
- 12. William IV.—Scarlet self.

#### CHRYSANTHEMUMS.

# Large Flowering Show Varieties.

- 1. Beauté du Nord.—Violet carmine.
- 2. Beverley.—Cream white.
- 3. General Slade.—Red, tipped orange.
- 4. Mrs. Wyness .- Puce.
- 5. Prince of Wales.—Dark purple.
- 6. Mr. George Glenny .- White.
- 7. Queen of England.—Blush.
- 8. Rev. J. Dix.—Orange red, lighter centres.
- 9. Mrs. Dixon.—Splendid yellow.
- 10. Lady Slade.—Soft lilac pink, centre blush.

- 11. Mrs. Brunless.—Red, tipped gold.
- 12. Golden Dr. Brock.—Bright golden yellow.
- 13. St. Patrick.—Bronzy red.
- 14. Le Grand.—Fawn colour, tinted rosy peach.
- 15. Maréchal Duroc,-Rose and lilac.
- 16. Mr. Gladstone. Dark chestnut red.
- 17. Annie Salter. Golden yellow, reflexed.
- 18. Dr. Sharpe.-Magenta crimson, reflexed.
- 19. Guernsey Nugget.-Primrose yellow.
- 20. Jardin des Plantes.-Bright golden orange.
- 21. Mrs. Sharpe.—Rich pinkish rose, bright silvery turnover.
- 22. Aregena.—Purple crimson, or amaranth.
- 23. Prince Alfred.—Rosy crimson.
- 24. Lord Stanley.—Orange amber.

# Pompone Varieties.

- I. Fanny.—Dark brown.
- 2. Andromeda.—Cream.
- 3. Autumna.—Buff.
- 4. Berrol.—Golden vellow.
- 5. Bijou de L'Horticulture .- Sulphur and white.
- 6. Mrs. Dix.—Plush, bordered rose.
- 7. Marabout.-White feathery.
- 8. Model of Perfection.—Rich lilac, edged pure white.
- 9. Mrs. Hull.—Chestnut and orange.
- 10. Sunset.—Orange brown.
- 11. Mr. Astie.—Golden yellow.
- 12. Peele.—Deep rose.
- 13. Aglaia.—Blush, with high white centre.
- 14. Regulus.—Cinnamon.
- 15. Firefly.—Bright scarlet, high centre.
- 16. Cedo Nulli .- White, tipped brown.
- 17. White Trevenna.-Pure white.
- 18. Durnflet.-Rose carmine.
- 19. Craraction.—Deep magenta.
- 20. General Canrobert.—Pure yellow.
- 21. Adonis.-Rose and purple.
- 22. Surprise.—White and rose.
- 23. President Morel.—Red.
- 24. Madame Sentir.—Pure white.

# Japanese Hybrids.

- 1. Blanche de Castile.-White, lilac, and gold.
- 2. Boule de Neige.-Large white.
- 3. Erecta superba .- Bright rose, broad petals.
- 4. Jane Salter. White, bordered and striped with rosy lilac.
- 5. La Coquette.—Golden thread-like petals.
- 6. Red Dragon.—Red chestnut, tipped yellow.

# CINERARIAS.

- I. Admirable.—Ruby claret, dark grey disc.
- 2. Correggio.-Magenta rose, white ring, dark disc.
- 3. Diana.-White, purple-crimson edge, black disc.
- 4. Fortunatus.-White, rosy crimson edge, dark disc.
- 5. Goliath. Rosy purple, white ring.
- 6. Grand Mogul.—Dark maroon.
- 7. Mozart.—Plum, white ring.
- 8. May Day.—Carmine lake, pure white ring.
- 9. Priam.—Rosy lake, white central ring.
- 10. Regal.-White, purple edge.
- 11. True Blue.-Rich deep blue, narrow white edge.
- 12. Edina .- White, deep rose edge.

## COLEUS.

- Baroness Rothschild.—Centre of the leaves bright bronzy crimson, golden margin.
  - 2. Cloth of Gold.—Pure self-coloured yellow.
- 3. Emperor Napoleon.—Hardy bedding variety, with chocolate-coloured leaves.
  - 4. Golden Gem.-Bright crimson, fringe golden margin.
  - 5. Newmannii.—Brilliant bronzy crimson, golden margin.
- 6. Princess Beatrice.—Light golden hue, main veins and margin lined with crimson.
  - 7. Queen Victoria.—Rich bronzy light crimson, bright yellow edge.
  - 8. Souvenir de Lierval.—Yellowish green, veined carmine.

## CROCUSES.

- I. Caroline Chisholm .-- White.
- 2. David Rizzio. Purple.

- 3. Le Majestueuse.—Striped.
- 4. Louis d'Or.-Yellow.
- 5. Prince Albert.-Lilac.
- 6. Queen Victoria. White.
- 7. Sir John Franklin.-Purple.
- 8. Sir Walter Scott .- Striped.
- q. Superb .- Yellow.

# DAHLIAS.

#### Show Varieties.

- Crimson.—British Triumph, Bob Ridley, Emperor, Floribunda, Gloriosa, Gipsy Queen, Harry, Marquis of Winchester, Paradise Williams.
- 2. Dark Crimson.—Andrew Dodd, Black Prince, High Sheriff, Indian Chief, John Gladdon.
- 3. Deep Purple.—Autocrat, Eclipse, Edward Sparey, Lord Derby, Lord Napier, Purple Gem, Sir Greville Smith, Triomphe de Pecq.
- 4. Light Purple.—Coronet, Earl of Pembroke, Favourite, George Wheeler, Herbert, James Buckhouse, Memorial, Rosy Circle, Vedette.
- 5. Lilao.—Aurora, Baron Taunton, Criterion, Juno, Lilac Queen, Mrs. Boston, Mrs. Hogg.
- 6. Light Shaded and Blush.—Alexandra, Constance, Fair Imogene, Flag of Truce, Fairy Queen, Heroine, Jenny Austin.
- 7. Orange.—Admiration, Anne Austin, Chairman, Hugh Miller, Norfolk Hero, Redan, Vice-President.
  - 8. Pink Rose.—Mrs. Edwards, Mrs. Roberts, Satirist.
  - 9. Primrose.-King of Primroses-Queen of Primroses.
- 10. Salmon.—Gazelle, General Jackson, Hon. Miss Herbert, John Kirby, Lady Elcho, Master of Arts, Model, Mr. Boshell, Samuel Naylor.
- 11. Scarlet.—Chancellor, Comet, Disraeli, Firefly, Foxhunter, Lord Palmerston, Madge, Wildfire, Mr. Dix, Scarlet Gem.
- 12. Yellow Shaded. Chameleon, Charles Turner, Enchantress, Flambeau, James Hunter, Jubilee, Lady Herbert, Leah, Sir George M. Douglas, Starlight.
- 13. White.—Miss Henshaw, Mr. W. Piggot, Princess White Perfection.

# Fancy Varieties.

- I. Fanny Sturt .- Red, tipped white.
- 2. Gem. Dark maroon, tipped white.
- 3. Mrs. Purves .- Deep yellow, tipped white.

- 4. Mrs. Saunders .- Yellow, tipped white.
- 5. Peacock.-Deep purple, tipped white.
- 6. Lady Allington.—Deep scarlet, tipped white.
- 7. Beauty of Wilts.—Crimson, tipped white.
- 8. Mrs. G. Smith .- Puce, tipped white.
- 9. Prospero. Crimson, tipped purple.
- 10. Eccentric.—Yellow, tipped scarlet.
- 11. Chang.—Yellow, striped and mottled scarlet.
- 12. Dolly Varden .- White, striped purple.
- 13. Egyptian Prince.—Bronze red, striped deeper red.
- 14. Flora Wyatt.—Orange, striped and flaked red.
- 15. Grand Sultan .- Buff, bright red striped.
- 16. John Lamont. Maroon, striped black.
- 17. Letty Coles.—Pale rose ground, striped and tipped red.
- 18. Miss Large.—White, striped light purple.
- 19. Miss Lily Large.—Puce, striped and spotted crimson.
- 20. Patent.—Salmon, striped purple.
- 21. Rev. J. B. M. Camm .- Yellow, flaked red.
- 22. Octoroon.—Purple and white stripes, mulberry spots.
- 23. Hercules.—Yellow ground, striped and speckled crimson.
- 24. Iona.—Buff, edged and tipped lake.
- 25. Tippy Bob.—Canary yellow, rose and purple stripes.
- 26. Oracle.-Yellow, striped with crimson.
- 27. Empress of Austria.—Yellow, shaded red, tipped white.
- 28. Sam Bartlett.—Deep blush, striped with crimson.

# Bouquet or Pompone Dwarf Varieties.

- 1. Alba flora nana.—Pure white.
- 2. Barcelona.—Dark crimson, occasionally tipped white.
- 3. Conflagration. Bright scarlet.
- 4. Crimson Gem.—Rich crimson.
- 5. Emotion.—Beautiful lilac.
- 6. German Daisy.—Rose, rayed with white.
- 7. Gem of the Dwarfs.—Dark crimson, tipped white.
- 8. Hilda.—Dark maroon, tipped white.
- 9. Jewess.—Orange scarlet, tipped white.
- 10. King of Dwarfs.—Dark purple.
- 11. Little Dear.—Blush white, flushed and tipped rose.
- 12. Pluton.—Best yellow.
- 13. Queen of York.—French white, shaded lilac.
- 14. Venus.—Very deep rose.

## FERNS.

- 1. Stove Varieties.—Adiantum trapeziforme, Amphicosmia capensis, Asplenium Veitchianum, Davallia tenuifolia, Gymnogramma chrysophylla, Gymnogramma ochracea, Hymenodium crinitum, Nephrolepis davalioides, Nothoclæa nivea, Onychium auratum, Stenochlæna tenuifolia (climber), Thamnopteris Australasica.
- 2. Hardy Varieties. Allosorus crispus, Asplenium marinum, Athyrium filixfoemina, Cyrtomium falcatum, Blechnum spicant, Lastrea filax-mas, Lastrea oreopteris, Onoclea sensibilis, Osmunda regalis, Osmunda Claytoniana, Polypodium phegopteris, Polypodium vulgare.
- 3. Scandent and Trailing Varieties.—Asplenium reclinatum, Acrophorus hispidus, Adiantum setulosum, Campyloneurum cæspitosum, Davallia pinnatifida (Humata), Fadijenia prolifera, Goniophlebium vacciniifolium, Goniopteris scolopendrioides, Hemiontis cordifolia, Nothochlæna nivca, Niphobolus rupestris, Polypodium filipes.

# FUCHSIAS.

# Single Varieties.

- 1. Minnie Banks.—Corolla scarlet; tube and sepals white.
- 2. Rose of Denmark.—Corolla light pink, margined rose; tube and sepals white.
  - 3. Covent Garden White.—Corolla scarlet; tube and sepals white.
- 4. Lord Falmouth.—Corolla rich violet blue; tube and sepals carmine scarlet.
  - 5. Resplendent.—Corolla rich violet; tube and sepals scarlet.
- Wave of Life.—Corolla bright violet blue; tube and sepals rich scarlet; foliage bright yellow.
- 7. Dr. Kitto Giddings.—Corolla dark and satiny; tube and sepals scarlet.
- 8. Bland's New Striped.—Corolla rich plum-coloured purple; tube and sepals glowing scarlet.
  - 9. Mrs. E. Bennett.—Corolla white; tube and sepals scarlet.
- 10. Colonel Haroourt.—Corolla light scarlet rose, suffused with purple; tube and sepals scarlet.
- 11. First of the Day.—Corolla lavender coloured; tube and sepals mauve.
- 12. Earl of Beaconsfield.—Corolla deep carmine; tube and sepals light rosy carmine.

- 13. Erecta von Novelty.—Corolla light pink; tube and sepals cherry crimson; flowers erect.
- 14. Milton. -- Corolla purple violet, striped red; tube and sepals scarlet.

## Double Varieties.

- Avalanche.—Corolla dark violet; tube plum colour; sepals bright carmine.
- 2. Miss Lucy Finnis.—Corolla pure white; tube and sepals coral red.
  - 3. Little Alice. Corolla pure white; tube and sepals scarlet.
- 4. Champion of the World.—Corolla bright dark purple; tube and sepals scarlet.
- Prince Leopold.—Corolla deep violet; tube and sepals deep . crimson.
- Tower of London.—Corolla violet blue; tube and sepals coral scarlet.
  - 7. Carrie Symes.—Corolla pure white; tube and sepals scarlet.
  - 8. Harry Felton.—Corolla bright purple; tube and sepals scarlet.

#### GERANIUMS.

## Show Varieties.

- I. Admirable.—White, rose, and maroon.
- 2. Agnes.—Pink, blotched with black.
- 3. Conqueror.—Crimson maroon.
- 4. Emperor.—Crimson, and dark spot.
- 5. Fair Ellen .- White, maroon, and crimson.
- 6. Governor-General.—White, rose, orange, and maroon.
- 7. King of Scarlets .- Bright scarlet.
- 8. Maid of Honour. Upper petals dark crimson, edged with salmon; under petals salmon, light centre.
  - 9. Marvellous .- Maroon and carmine.
  - 10. Review.—White, rose, and maroon.
  - 11. Viola .- White and lilac.
  - 12. Larkfield Rival.—Pure white, with pink spot on top petals.

# Fancy Varieties.

 Emperor.—Upper petals black, edged white; under petals white, mottled purple.

- 2. Beauty of Slough.—Bright rosy crimson, margined with white; white centre.
  - 3. Celestial.—Bright light rose.
- 4. Prima Donna.—White centre; upper petals violet purple, margined with white; lower petals pure white, spotted with purple.
- Helen Faucit.—Dense crimson; lilac edge; under petals lilac, mottled crimson.
- 6. King.—Upper petals violet crimson; lower petals flesh mottled crimson.
- 7. Cloth of Silver.—Silvery white, with rose blotch; under petals pure white.
  - 8. Lady Hume Campbell.—Bright scarlet crimson; lilac centre.
  - 9. Bridesmaid.—Pale lavender, edged with white.
- · 10. Crimson King.—Crimson purple; lilac centre and edges.
  - 11. Omar Pacha.—Bright crimson.
  - 12. Madame Rougiere.—Crimson purple; lilac throat and edges.

# Nosegay Class.

- 1. Bishopstowe Nosegay.
- 2. Crystal Palace Nosegay.
- 3. Imperial Crimson Nosegay.
- 4. Pink Nosegay.
- 5. Purple Nosegay.
- 6. Red Nosegay.
- 7. Salmon Nosegay.

#### Scented Leaved Varieties.

- I. Abrotanifolium.—Southernwood scented.
- 2. Capitatum.—Rose scented.
- 3. Citriodorum.—Orange scented.
- 4. ,, majus.—Lemon scented.
- 5. Gratum.—Nutmeg scented.
- 6. Lobatum.—Peppermint scented.
- 7. Prince of Orange.—Apple scented.

# Golden Tricolor-Bedding Varieties.

- 1. Lady Cullum.—Golden, rich dark crimson zone.
- 2. Lucy Grieve.-Golden, lake-tinted crimson zone.
- 3. Mrs. Headley.—Golden, rich broad zone.
- 4. Mrs. Pollock.—Golden, bronze red zone.
- 5. Peter Grieve.-Golden, flamed scarlet zone.
- 6. Reynolds Hole.—Golden, crimson and black zone.

# Silver Tricolor-Bedding Varieties.

- 1. Avalanche. White edge and flowers.
- 2. Bright Star .-- I'ure white edge, scarlet flowers.
- Fair Oriana.—Cream-white edge; flowers white, with salmon-rose centre.
  - 4. Flower of Spring.—White variegation, flowers bright cerise.
  - 5. Mrs. F. Clutton.—White edge, broad bright crimson zone.
  - 6. Snowflake.—Broad white edge, flowers rosy scarlet.

# Bicolors, or Bronze and Gold Varieties.

- 1. Black Douglas.—Gold margin, dark bronze chocolate zone.
- 2. Chieftain.—Yellow, chocolate red zone.
- 3. Criterion. -Golden yellow, rich chestnut red zone.
- 4. Distinction. -- Green disc, narrow vandyked zone, margin singuarly crimped and notched.
  - 5. Golden Circle.—Gold, light chocolate zone.
- 6. Happy Thought.—Leaf white in centre, and green round the outside.
  - 7. Heroules.—Yellow, shaded red and bronze zone.
  - 8. Marshal MacMahon. -- Pale yellow, bronze zone.
  - 9. Negro.—Yellow, deep chocolate bronze zone.
- 10. Princess of Wales.—Yellow ground, vandyked bronzed red zone.

# Variegated Ivy-Leaved Varieties.

- I. Bijou.—White variegation, vermilion-carmine flowers.
- 2. Duke of Edinburgh.—Broad white margin.
- 3. L'Élégante.—Dark green foliage, with silver edge.
- 4. Silver Gom. Silver margin, lilac flowers.
- 5. Willsii.—Neat erect habit, flowers shaded magenta.
- 6. Willsii rosea.—Erect growth, rich rose-coloured flowers.

## Double-Flowered Varieties.

- I. Aline Sisley.—White, small foliage and compact, free flowering.
- 2. Jewel.—Deep scarlet, very full, Tom Thumb habit.
- 3. Madame Boutard.—Pale rose, very dwarf.
- 4. Madame Rendatter.—Pure mauve, very double, large truss.
- 5. Mr. Gladstone.—Salmon-tinted rose, large flowers.
- 6. Triomphant.—Brilliant violet, centre leaves striped white.

# Double-Flowered Zonale Varieties.

- 1. Amaranth.—Rosy pink, new and beautiful colour.
- 2. Corsair.—Brilliant scarlet, fine form.

- Culford Pink.—Flowers salmon pink, dwarf habit, broad dark zone.
  - 4. Gloire de Corbency. Salmon, margined white.
  - 5. Madame Vaucher .- Pure white.
  - 6. Mrs. Hole.-Magenta crimson.
  - 7. President Grévy.-Plum colour.
  - 8. Waltham Seedling.—Red crimson.

# Horseshoe-Leaved Scarlets.

Amazon, Baron Hugel, Beauty of Brixton, Bishopstowe, Captivation, Compactum, Lilliput, Martin Gireau, New Globe, Queen of England, Richmond Green, Scarlet Perfection.

# Plain-Leaved Scarlets.

Defiance, Frogmore Improved, Punch, Wellington Hero.

# GLADIOLI.

- I. Baviana.—Orange, feathered violet.
- 2. Cardinalis.—Bright scarlet, flaked white.
- 3. Colvilli, -Purplish lilac.
- 4. Elegantissimus.—Fine rose, spotted.
- 5. Emicans.—Orange scarlet, feathered.
- 6. Ernest Maltravers.-Bright salmon.
- 7. Formosissimus.--Scarlet, flaked white.
- 8. Hendrious.—Bright rose, shaded lilac.
- o. Imperialis.—Purple, splendid striped.
- 10. Lamartine.-Salmon and carmine.
- 11. Lindley.—Vermilion scarlet, and violet.
- 12. Lord Clarendon.—Red, feathered white.
- 13. Magnificus.—Deep red.
- 14. Ne Plus Ultra.—Deep rose, blotched white.
- 15. Ramosus.—Salmon rose, flaked crimson.
- 16. Sir Joseph Paxton.—Bright rose.
- 17. Trimaculatus.—Rose, spotted white.
- 18. Psittacinus.—Yellow and red.

# GLOXINIAS.

- 1. Anneau Cobalt.—White ground, laced with rich blue.
- 2. Astrea.—Rosy crimson throat, margined with white.

- 3. Attraction.—Tube and edges pure white, mouth rosy crimson, throat spotted crimson.
  - 4. Aurora.—Tube light, limb dark pink, throat pure white.
  - 5. Beauty.—Pink lobes, pure white mouth, and white throat.
- 6. Bird of Paradise.—Flowers rosy lilac, throat creamy white, beautifully spotted.
- 7. Brilliant.—Bright crimson, lobes margined with rose, rich violet throat.
- 8. Celestial.—Rose lobes, throat encircled with deep violet, base of the tube white.
  - 9. Charles Dickens.—Tube and limb violet, throat rich purple.
  - 10. Cerulea variegata.—Light porcelain blue, streaked with white.
- 11. **Madame Frederic Siesmeyr.**—Tube and throat white, with broad margin of purple.
- 12. Madame Guillon.—Throat cream-coloured, bordered with rosy spots of carmine.
- 13. Magenta.—Throat slate, lined with carmine; mouth rose, dotted with magenta; margin white.
- 14. Most Beautiful.—Tube sulphur, densely spotted with red; richly margined with purple.
- 15. Pavilion Blane.—Tube white, and long; margin of throat cream coloured, and spotted with lilac.
- 16. Peeress.—Rich purple, the lobes margined with blue; base of the throat white, spotted.

#### HOLLYHOCKS.

- I. Alice.—Salmon, suffused with deep pink.
- 2. Anne.—Pink, shaded crimson.
- 3. Arthur.—Bright, dark red.
- 4. Clipper.—Pink, shaded with salmon.
- 5. Coronet.—Bright crimson.
- 6. Cygnet .- Pure white.
- 7. Dandy.—Dark red, very bright colour.
- 8. Galatea.—Deep red, very showy.
- 9. Glory of Walden.—Vermilion scarlet.
- 10. Harlequin.—Cream white, shaded with purple.
- II. Hon. Mrs. Ashley.—Bright rosy pink.
- 12. King of Purples.—Rich, fine purple.
- 13. Lord Loughborough.—Salmon pink.
- 14. Mabel.—Pink, shaded crimson.

- 15. Miss Reed.—Ivory white, with bright purple base.
- 16. Miss Turner.-Creamy white.
- 17. Mrs. Downie. Salmon rose
- 18. Nabob .- Light amber, suffused with pink.
- 19. Tyrian Prince.-Rich purple.
- 20. Walden Rival. Orange and crimson shaded.

## HYACINTHS.

# Double Show Varieties.

- 1. Bouquet Royale .- Pink.
- 2. Grootvorst.-Blush.
- 3. Alida Catherina.—Deep rose.
- 4. Waterloo .- Fine crimson.
- 5. Anna Maria.—White, violet eye.
- 6. Passe Virgi. White, pink eye.
- 7. A la Mode.-White, purple eye.
- 8. Don Gratuit.—White, yellowish eye.
- 9. Bloksberg.-Fine light striped.
- 10. Grande Vedette .- Pearl white.
- 11. Laurens Koster .- Fine rich purple
- 12. Lord Wellington.—Rich dark blue.
- 13. Bouquet d'Orange.-Reddish yellow.
- 14. Louis d'Or .- Yellow, pink eye.

# Single Show Varieties.

- 1. Amy.—Scarlet.
- 2. La Prophète. Carnation rose.
- 3. Madame Hodgson.-Fine red.
- 4. La Dame du Lac.—Rosy salmon.
- 5. Grand Vainqueur.—Pure white.
- 6. Voltaire.-Blush white.
- 7. Elfrida.—White, pink shaded.
- 8. Mont Blanc .- White.
- 9. Argus.—Rich purple, white eyed.
- 10. Charles Dickens.—Porcelain shaded with blue.
  11. General Havelock.—Deep black purple.
- 12. L'Unique.—Fine purple mauve.
- 13. Alida Jacobs.—Deep yellow.
- 14. Heroine. Bright citron.

# LANTANAS.

- 1. Distinction.—Bright orange scarlet.
- 2. Dom Calmet.—Pink, centres changing to peach and yellow.
- 3. Favourita.—Yellow, changing to dark brown scarlet, distinctly shaded bright purple.
  - 4. You Follet.-Reddish yellow.
  - 5. Heroine.—Clear crimson, changing to rich chocolate.
  - 6. La Neige.—Pure white.7. Magenta King.—Nearly self-coloured bright purple scarlet.
- 8. Monsieur Roucier Chauvière.—Yellow, bordered bright red, changing to scarlet.
  - 9. Ninus.-Canary yellow.
  - 10. Phosphore.—Deep yellow.
  - 11. Ver Cuisant .- Brilliant yellow.
  - 12. Victoire. Pure white, rich lemon eye.

## LILIES.

- 1. Bulbiferum.—Orange crimson, slightly spotted black; two feet.
- 2. Catesbei.—Orange red, purple spotted; one foot.
- 3. Concolor.—Scarlet, slightly spotted black; one foot.
- 4. Concolor Coridion.—Yellow, spotted brown; one foot.
- 5. Davurioum umbellatum immaculatum.—Rich crimson, shaded to orange; two feet.
- 6. Philadelphicum.—Yellow, spotted black, and blotched red; one foot.
  - 7. Thunbergianum Armeniaeum.—Rich, soft orange; one foot.
- 8. Thunbergianum atrosanguineum.—Rich, blood crimson; one foot.

#### LOBELIAS.

- I. Brighton.-Bright blue.
- 2. Ebor.—Purple, dark and intense.
- 3. Defiance.—Rosy red.
- 4. St. Martin's Blue. Flowers dark blue, foliage dark bronze.
- 5. Cærulea alba marmorata, fl. pl.—Beautiful double blue flowers.
- 6. Double White.—Flowers white, neat and compact habit.
- 7. Lobelia pumila magnifica.—Flowers deep indigo blue.
- 8. Princess of Wales.—Pure white.

#### MIMULUS.

## Show Varieties.

- Bridal Beauty. —White ground, bright crimson lobes, margined cream colour.
- 2. Empress of India.—Clear scarlet, large yellow throat, spotted with crimson.
  - 3. Rosy Gem.—Rose ground, cream throat, spotted yellow mouth.
- 4. Mottled Beauty.—Ruby red, amber coloured mouth, blotched and mottled crimson.
- 5. Soleil.—Bright crimson red, yellow mouth, centre marked with tiger-like spots.
  - 6. Versicolor.—White ground, spotted over with dark rose.

# PANSIES.

# Show Varieties.

- 1. Agnes B. Holt.—Pure white self, solid blotch.
- 2. Alexander McNab .-- Very dark maroon shaded.
- 3. Clipper.-Bright yellow self.
- 4. Dr. Robert Lee.—Mulberry self.
- 5. Golden Queen.-Light yellow, solid blotch.
- 6. Inimitable.—Primrose.
- 7. Locomotive.—Dark maroon, shaded with crimson.
- 8. Yellow Queen .- Deep yellow.
- 9. George Wilson.—Golden yellow, with bronzy purple belt; dense blotch.
  - 10. Lochiel.—Yellow, bronze belt.
  - 11. Oriel.—Rich yellow, light blue belting, fine blotch.
  - 12. Francis Lightboy.-White, with large purple belt.

# Fancy Varieties.

- 1. Alfred Elliott.—Fine smooth red, with blotches.
- 2. Cloth of Crimson. Bright crimson and gold.
- 3. Cloth of Rose.—Pinky rose and sulphur.
- 4. Collin Bell.—Cream colour, suffused with claret; large black blotch.
  - 5. Countess Pauline. Dark red, with large black blotches.
  - 6. Durrit.—Bright red, with large blue blotches.
  - 7. Elvina. Yellow and white, edged with bright mauve; fine blotch.

- 8. Georgiana.—Pearl white, edged light blue; large dark blue blotches.
- Leigh Hunt.—Light mauve and white, with large dark mauve blotches.
  - 10. Magpie.—Sulphur, with large black blotch.
  - 11. Striped Queen. White, striped pale blue.
  - 12. Sunrise.—Orange, shaded with rose; large blotch.

# Massing Varieties.

- 1. Purples.—Cliveden Purple, Prince Bismarck, Tyrian Purple, Violet King.
- 2. Blues.—Blue Gem, Blue King, Cliveden Blue, Imperial Blue Perfection.
- 3. **Yellows.** Cliveden Yellow, Golden Perfection, Perpetual Yellow, Prince of Orange.
  - 4. Whites.—Great Eastern, Lily White, Snowflake, White Bedder.

## PENTSTEMONS.

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  - 4. Black Knight.-Maroon throat, shaded with white.
- 5. Ceres.—Violet-purple rose, lilac lobes, throat striped with rose on white ground, and blotched rich chocolate.
  - 6. Atalanta.—Rich magenta crimson, white throat, red lines.
- 7. Countess of Rosslyn.—Delicate pink, white throat, slightly pencilled with pink.
- 8. Stanstead Rival.—Bright scarlet crimson, pure white throat, slightly pencilled light carmine.
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  - 10. W. P. Laird.—Light blue, throat pure white.

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- 2. King of the Crimsons.—Rich purplish crimson.
- 3. Heroine.—Crimson and white.

- 4. Little Rose.-Rose pink.
- 5. Romulus.- White ground, flaked and mottled purple.
- 6. Neptune. Pure white.

# Single Varieties.

- 1. Dr. Denny .- Deep crimson maroon.
- 2. Mrs. Wright.—Deep rich lake, starred with pure white.
- 3. Dr. Daniel.—Crimson maroon, white throat.
- 4. Spitfire. -- An intense bright purple, shaded crimson.
- 5. Mrs. William Elder.—Splendid white band, edged bright purple.
- 6. Illustration.—Bright lilac, blotched rose.

## PHLOXES.

- I. Aurore Boreale .- Bright salmon.
- 2. Liervalle.-Dark rose, striped white.
- 3. Eugène Tanner.-White, rosy crimson eye.
- 4. The Queen .- Pure white.
- 5. Victor Hugo .- Brilliant scarlet.
- 6. Madame Cailliaird .- Fiery salmon, crimson centre.
- 7. Princess Louise.—Pure white, purple crimson eye.
- 8. John Alexander. Salmon, scarlet-stained violet, dark crimson eye.
- 9. Erato.—Carmine red, shaded white and lilac.
- 10. Son de Berryl.—Crimson, purple centre.
- 11. Le Lion.—Rose, edge of petals blotched carmine.
- 12. Mrs. Laing.—Soft rosy lilac.
- 13. Oberon.—Coppery cerise.
- 14. Pepin.—Orange red, bright centre.
- 15. Statuaire Cabet.—Vermilion red, with purple centre.
- 16. York and Lancaster.—Violet, veined and edged white.

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- 5. William Summers.—Red edge.
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- 3. Lord Canning.—Primrose, yellow cup.
- Louis le Grand.—White, primrose cup.
- 5. Paper White. Pure white.
- o. Perle d'Amour.—Primrose, yellow cup.
- 7. Sulpherine. Sulphur, light yellow cup.
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- 6. Norma.—Red, laced with bright yellow.

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- 2. Aurora.—Creamy white, with orange centre.

3. Brilliant.-Rich rosy purple.

- 4. Charles Baltet.—Rosy carmine, with yellowish centre.
- 5. Delicatum.—Pure white.
- 6. Dr. Livingstone.—Very pale lilac, centre petals white.
- 7. Émile Lemoine.—Purplish crimson, tipped golden yellow.
- 8. Fulgens Plenissimum.—Rich carmine.
- q. Impératrice Charlotte.-White, shaded with rose.
- 10. Mrs. Dix.—Blush, shaded with purple.
- 11. Nancy.-Blush white, shaded with salmon.
- 12. Paul Journu.—Outer petals pale rose, centre petals cream, shaded lilac.
  - 13. Peau Bouge.-Rosy crimson, with orange centre.
- 14. Roseum perfectum.—Outer petals pale red, centre petals delicate pink, spotted with white.
  - 15. Solfaterre.—Sulphur, with golden yellow centre.
- 16. Voi Lactée.—Pure white, suffused with delicate pink; centre orange.

## RANUNCULUSES.

- I. Belladonna. White spotted.
- Californian Gold.—Golden yellow.
- 3. Commodore Napier.—Primrose, tipped with purple.
- 4. Fireball.—Bright red.
- 5. Grandiflora.-Rose-lake, mottled.
- 6. Léon d'Orange.—Orange.
- 7. Mont Blanc .- Pure white.
- 8. Mount Vesuvius.—Red spotted.
- 9. Nosegay .- Yellow spotted.
- 10. Œil Noir .-- Jet black.
- 11. Prince de Galitzin.—Yellow, tipped crimson.
- 12. Victoria Scarlet .- Vermilion.

#### RHODODENDRONS.

- I. Argenteum.—Flowers white, throat spotted black.
- 2. Aucklandii.-Flowers pure white.
- 3. Barbatum. Flowers deep red.

- 4. Brookii gracilis.—Flowers pale yellow.
- 5. Ciliatum.—Flowers blush and white.
- 6. Javanicum.-Flowers bright orange.
- 7. Huttalii.-Flowers pure white, tinged with rose on the outer surface.
  - 8. **Betusum**.—Flowers reddish orange.
- 9. Thibaudiense.—Flowers bright red, mouth of the tube pale yellow.

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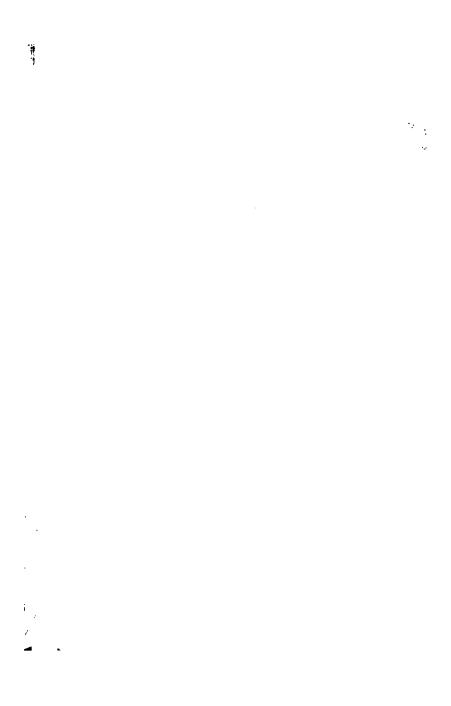
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